ORDER NO. MD9903036C2

Service Manual

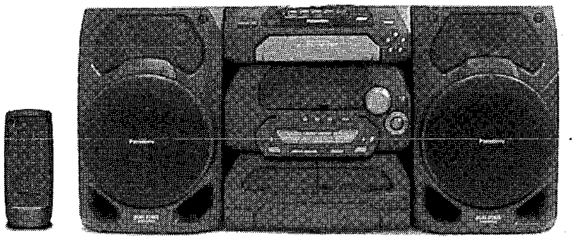
COMPACT
disc
DIGITAL AUDIO

MASH*
multi-stage noise shaping

CD Stereo System
SA-AK17

Colour

(K) ... Black Type



Area

Suffix for Model No.	Area	Colour
(E)	Europe	(K)
(EB)	Great Britain	
(EG)	Germany and Italy	

System	Music Center	Speaker
SC-AK17 (E)	SA-AK17 (E)	SB-AK17 (E)
SC-AK17 (EB)	SA-AK17 (EB)	SB-AK17 (E)
SC-AK17 (EG)	SA-AK17 (EG)	SB-AK17 (E)

* MASH is a trademark of NTT.

TAPE SECTION : AR2 MECHANISM SERIES
CD SECTION : RAE0152Z-M TRAVERSE DECK SERIES

■ Specifications

■ Amplifier Section

RMS power output	
THD 10%, both channels driven	
For	30W per channel (6Ω)
1 kHzcontinuous power output	
THD 1%both channels driven (DIN)	20W per channel (6Ω)
Input sensitivity and impedance	
AUX	250mV,13.2KΩ

■ Cassette Deck Section

Track system	4 track, 2 channel
Heads	
Record/playback	Solid permalloy head
Erasure	Double gap ferrite head
Motor	DC servo motor
Recording system	AC bias 100 kHz
Erasing system	AC erase 100 kHz
Tape speed	4.8 cm/s
Frequency response (+3, -6 dB at DECK OUT)	
NORMAL (TYPE I)	35 Hz – 14 kHz
HIGH (TYPE II)	35 Hz – 14 kHz
S/N	50dB(A weighted)
Wow and flutter	0.18 % (WRMS)
Fast forward and rewind time	Approx. 120 seconds with C-60 cassette tape

■ FM Tuner Section

Frequency range	87.50 – 108.00 MHz (50 kHz steps)
Sensitivity	
S/N 26dB	1.5 µV
Antenna terminal(s)	75 Ω (unbalanced)

■ AM Tuner Section

Frequency range	522 – 1629 kHz (9kHz steps)
Sensitivity	
S/N 20 dB	560 µV/m

■ CD Section

Sampling frequency	44.1 kHz
Decoding	16 bit linear
Beam source/wave length	Semiconductor laser / 780 nm
Number of channels	Stereo
Frequency response	20Hz – 20kHz (+1dB, -2dB)
Wow and flutter	Below measurable limit
Digital filter	8 fs
D/A converter	MASH (1 bit DAC)

■ General

Power consumption	120W
Power supply	
For E,EG area	AC 230V, 50Hz
For EB area	AC 230 – 240V, 50Hz
Dimensions (W x H x D)	270 x 331 x 316 mm
Weight	
For GN area	6.7 kg

Notes :

1. Specifications are subject to change without notice. Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

Panasonic®

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⚠ WARNING

This service information is designed for experiense repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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■ Before Repair and Adjustment

Disconnect AC power, discharge Power Supply Capacitors C506 ~ C508 through a 10Ω , 5W resistor to ground.
DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.
After repairs are completed, restore power gradually using a variac, to avoid overcurrent.

For E, EG
Current consumption at AC 230V, 50 Hz in NO SIGNAL mode should be ~350mA.
For EB
Current consumption at AC 240V, 50 Hz in NO SIGNAL mode should be ~350mA.

■ Protection Circuitry

The protection circuitry may have operated if either of the following conditions are noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

If this occurs, follow the procedure outlines below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.

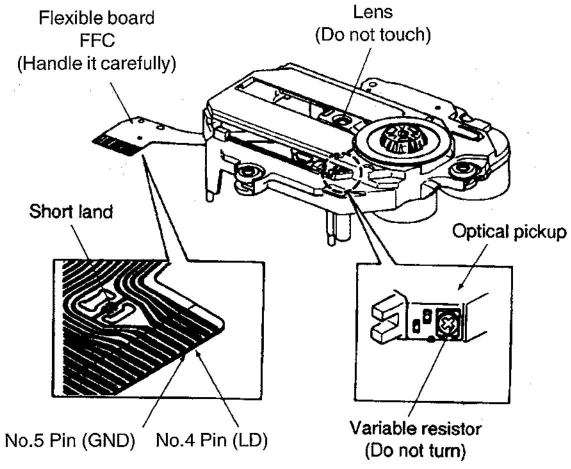
Note:
When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

■ Handling Precautions For Traverse Deck

The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by static electricity of clothes or human body.
So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).

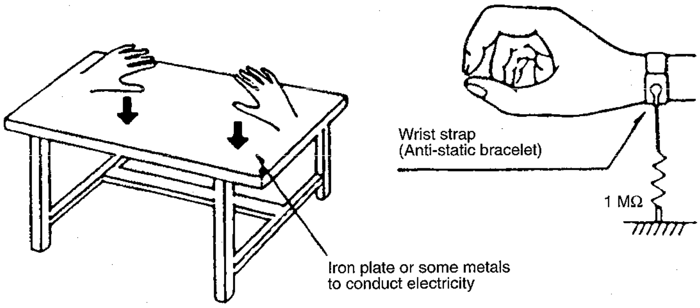
• Handling of traverse deck (optical pickup)

1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. The short land between the No.4 (LD) and No.5 (GND) pins on the flexible board (FFC) is shorted with a solder build-up to prevent damage to the laser diode.
   To connect to the PC board, be sure to open by removing the solder build-up, and finish the work quickly.
3. Take care not to apply excessive stress to the flexible board (FFC board).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.



- **Grounding for electrostatic breakdown prevention**

1. Human body grounding
   Use the anti-static wrist strap to discharge the static electricity from your body.
2. Work table grounding
   Put a conductive material (sheet) or steel sheet on the area where the traverse deck (optical pickup) is placed, and ground the sheet.


Wrist strap
(Anti-static bracelet)
1 MΩ
Iron plate or some metals to conduct electricity

Caution :
The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).

Caution when Replacing the Traverse Deck:
The traverse deck has a short point shorted with solder to protect the laser diode against electrostatics breakdown. Be sure to remove the solder from the short point before making connections.

■ Precaution of Laser Diode

CAUTION : This product utilizes a laser diode with the unit turned "ON", invisible laser radiation is emitted from the pick up lens.

Wavelength : 780 nm
Maximum output radiation power from pick up : 100 μW/VDE

Laser radiation from pick up unit is safety level, but be sure the followings:

1. Do not disassemble the optical pick up unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pick up unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pick up lens for a long time.

ACHTUNG: Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.

Wellenlänge : 780nm
Maximale Strahlungsleistung der Lasereinheit :100μW/VDE

Die Strahlung an der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinhit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.

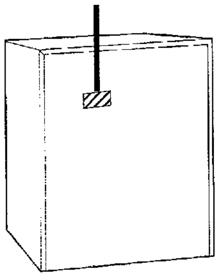
ADVARSEL: I dette a apparat anvendes laser.

CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

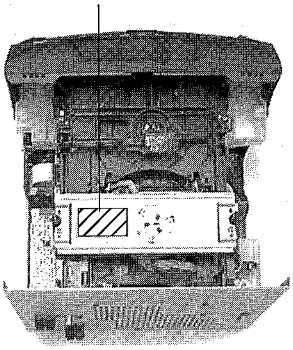
■ Use of Caution Labels

CLASS 1
LASER PRODUCT

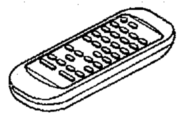
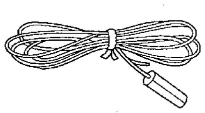
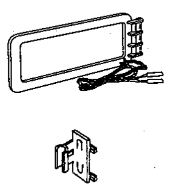
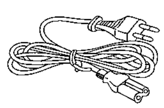
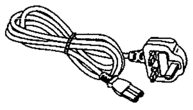
LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT



DANGER	INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
ADVARSEL	USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTÖNTÄ LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING	OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
ADVARSEL	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT	UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.



■ Accessories

RAK-CH943WK	RSA0007	RSA0022	RJA0043-1C	RJA0044-1C	
					**Blank**

■ Caution for AC Main Leads

(For "EB" area code model only.)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark ◇ or the BSI mark ♡ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover, the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

CAUTION !
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OFF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted, please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue:	Neutral
Brown:	Live

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL ⏚ OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use

Remove the connector cover.

How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.
Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.

Figure A

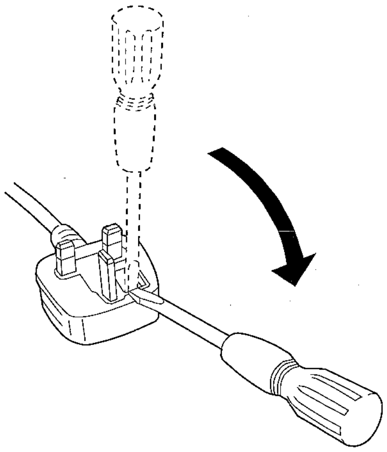
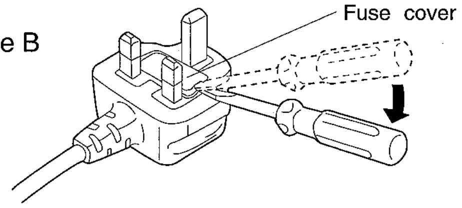


Figure B



2. Replace the fuse and close or attach the fuse cover.

Figure A

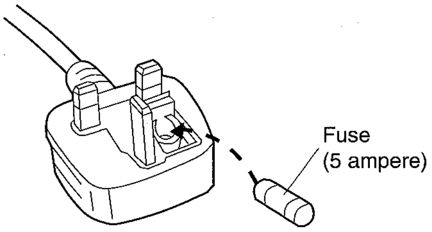
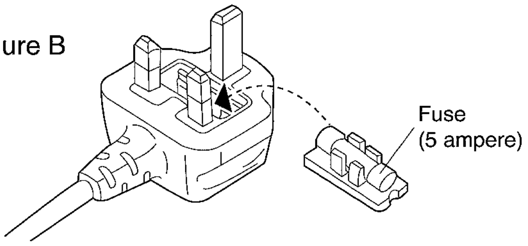
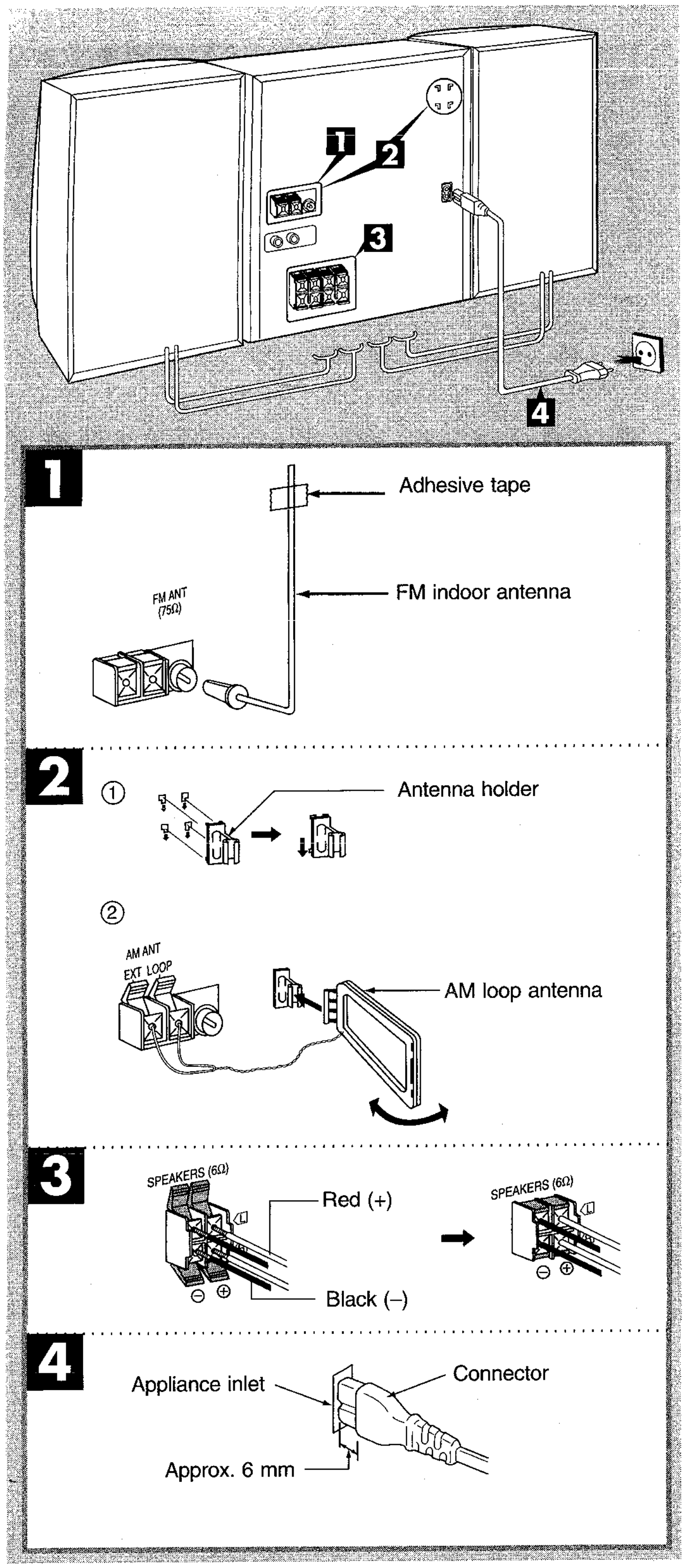


Figure B



■ Connections


1
2
3
4
1
Adhesive tape
FM ANT (75Ω)
FM indoor antenna
2
①
Antenna holder
②
AM ANT EXT LOOP
AM loop antenna
3
SPEAKERS (6Ω)
Red (+)
Black (–)
⊖ ⊕
SPEAKERS (6Ω)
⊖ ⊕
4
Appliance inlet
Connector
Approx. 6 mm

Basic connections (for supplied accessories)

- Plug the AC power cord into a household AC outlet only after all other connections have been made.
- To prepare the AM loop antenna wire and speaker cords, twist the vinyl cover tip and pull off.

1 Connect the FM indoor antenna.

Tape the antenna to a wall or column, in a position where radio signals are received with the least amount of interference.

Note

For best reception sound quality:
An FM outdoor antenna is recommended.

2 Connect the AM loop antenna.

After attaching the antenna, turn on the system and tune in a broadcast station. Then, turn the antenna to the angle of best reception and least interference.

3 Connect the front speaker cables.

Connect each end of the speaker cables to the terminal lever of the same colour.

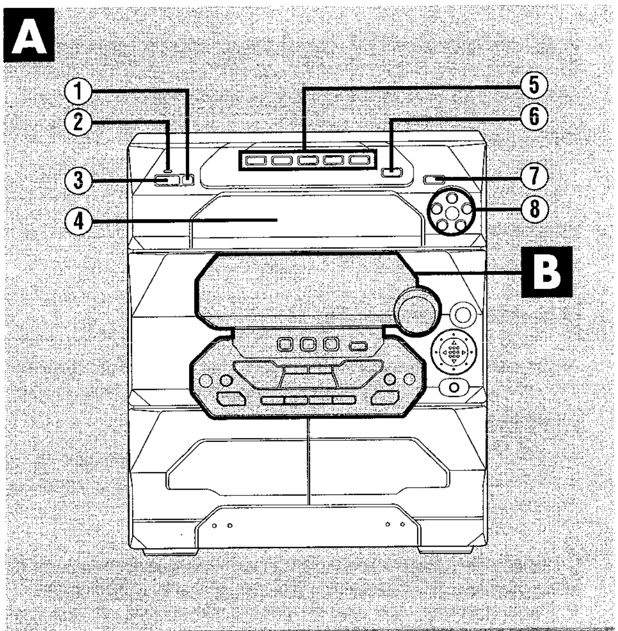
Caution

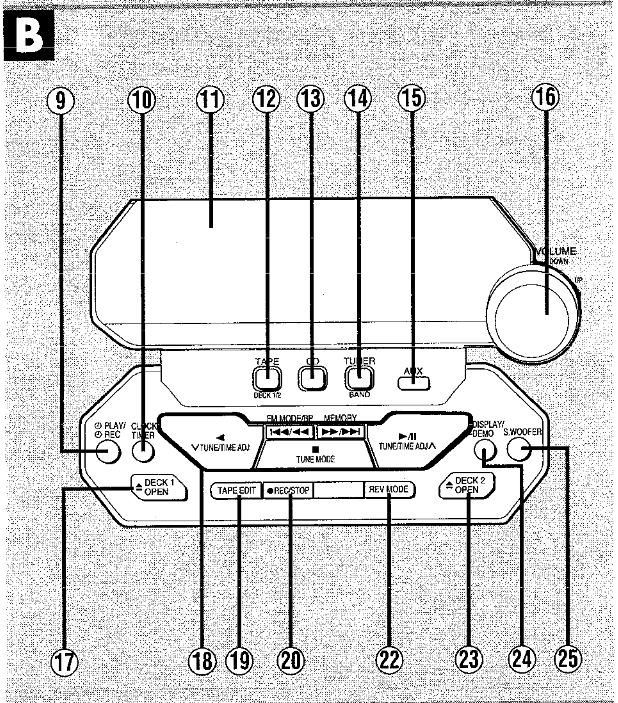
- **Use only the supplied front speakers.**
  The combination of the main unit and front speakers provide the best sound. Using other front speakers can damage the unit and sound quality will be negatively affected.
- To prevent damage to circuitry, never short-circuit positive (+) and negative (–) speaker wires.

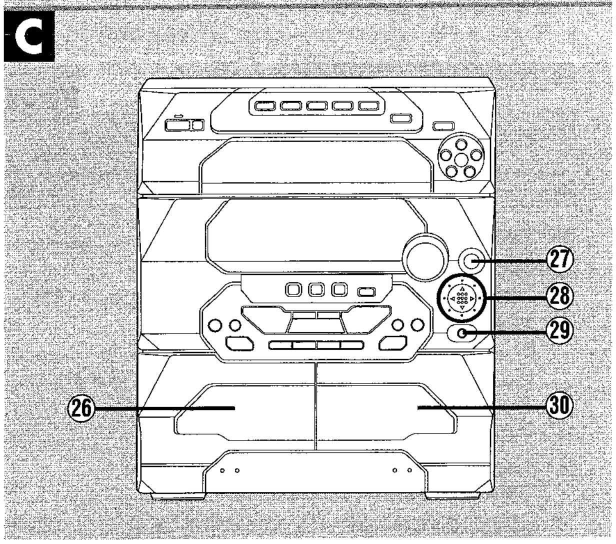
4 Connect the AC power cord.

Insertion of connector
Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.
However there is no problem using the unit.

■ Location of Controls


A
①
②
③
④
⑤
⑥
⑦
⑧
B


B
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯
VOLUME
DOWN
UP
TAPE
CD
TUNER
AUX
DECK 1/2
BAND
⊙ PLAY/
⊙ REC
CLOCK/
TIMER
FM MODE/BP
MEMORY
◄
∨TUNE/TIME ADJ
⏮/◄◄
►►/⏭
■
TUNE MODE
►/II
TUNE/TIME ADJ∧
DISPLAY/
-DEMO
S.WOOFER
≜ DECK 1
OPEN
TAPE EDIT
●REC/STOP
REV MODE
≜ DECK 2
OPEN
⑰
⑱
⑲
⑳
㉒
㉓
㉔
㉕



Main unit A

No.	Name

① **ECO button (ECO)**

② **AC supply indicator (AC IN)**
This indicator lights when the unit is connected to the AC mains supply.

③ **Standby/on switch (⏻/I)**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

④ **Disc tray**

⑤ **Disc select buttons and indicators (DISC 1 – DISC 5)**

⑥ **CD manager button (CD MANAGER)**

⑦ **Random play button (RANDOM)**

⑧ **Direct disc tray open/close buttons (≜ OPEN/CLOSE 1 – ≜ OPEN/CLOSE 5)**

Center console B

No.	Name

⑨ **Play timer/record timer button and indicator (⊙PLAY/⊙REC)**

⑩ **Clock/timer button (CLOCK/TIMER)**

⑪ **Display**

⑫ **Tape/deck select button (TAPE, DECK 1/2)**

⑬ **CD button (CD)**

⑭ **Tuner/band select button (TUNER, BAND)**

⑮ **AUX button (AUX)**

⑯ **Volume control (VOLUME)**

⑰ **Deck 1 open button (≜ DECK 1 OPEN)**

⑱ **Basic operating buttons**
Functions change according to the source.

⑲ **Tape edit button (TAPE EDIT)**

⑳ **Recording start/stop button (● REC/STOP)**

㉒ **Reverse mode select button (REV MODE)**

㉓ **Deck 2 open button (≜ DECK 2 OPEN)**

㉔ **Display select/demonstration button (-DISPLAY/–DEMO)**

㉕ **V.BASS button (V.BASS)**

Main unit C

No.	Name

㉖ **Deck 1 cassette holder**

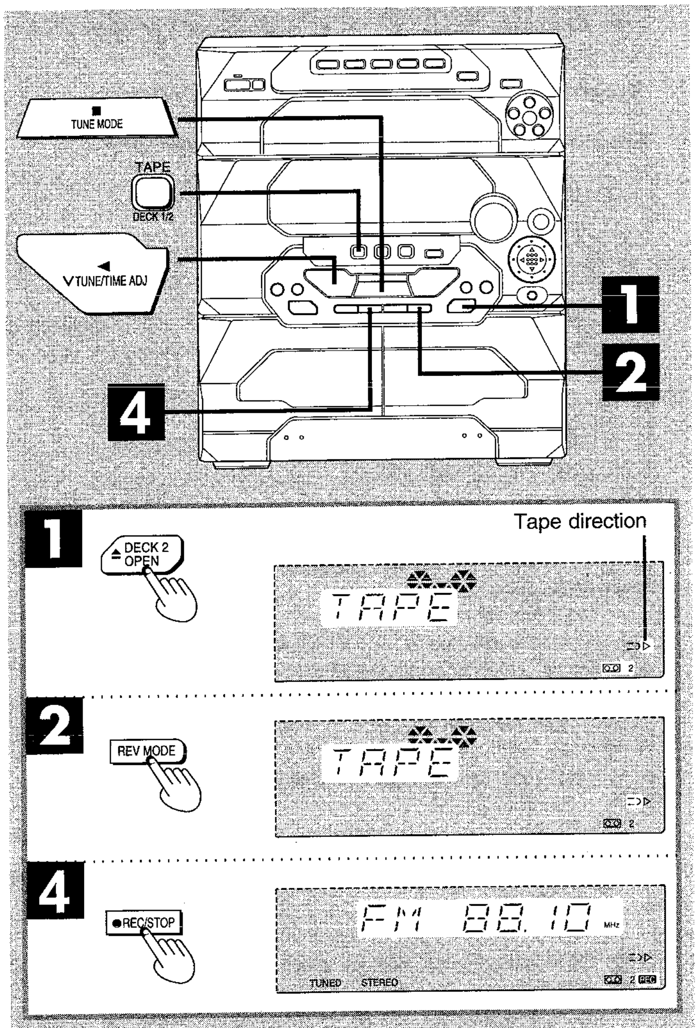
㉗ **3D AI EQ button (3D AI EQ)**

㉘ **Sound equalizer control/indicators (SOUND EQ)**

㉙ **Headphone jack (PHONES)**

㉚ **Deck 2 cassette holder**

■ Recording From Radio Broadcasts



1 **Press [≜ DECK 2 OPEN] and insert the tape.**
Close the holder by hand.
Tape direction is automatically set to "▷".

2 **Press [REV MODE] to select the reverse mode.**
Every time you press the button:

⇄ → ⇄⊃ → ⊂⇄⊃

⇄ : One side is recorded, then recording stops automatically.

⇄⊃, ⊂⇄⊃ : Both sides (front side → reverse side) are recorded, then recording stops automatically.

3 **Select a radio station.**

4 **Press [● REC/STOP] to start recording.**
If you selected "⊂⇄⊃" in step **2**, the direction will automatically change to "⇄⊃" when recording starts.

To stop recording
Press [● REC/STOP] again.
Recording can also be stopped by pressing [■].

To start recording on the reverse side
Load a tape and change the tape direction as follows:
1. Press [TAPE DECK 1/2] and select tape deck 2.
2. Press [◄] and immediately thereafter [■]. The tape direction will be shown as "◁".

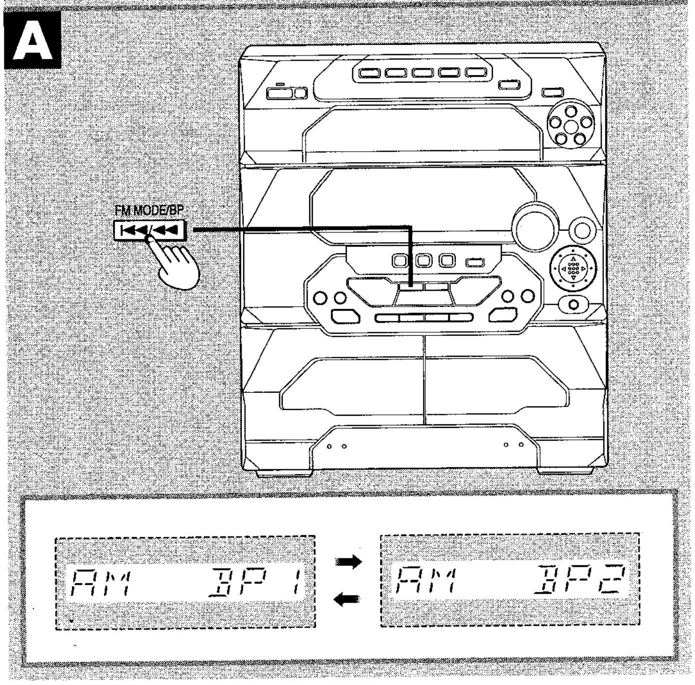
To record from a specific point on a tape
Before recording, advance the tape to the point from where you want to start recording.

To cut an unnecessary part while recording
1. Press [● REC/STOP] during the unnecessary part. The cassette deck will go into the stop mode.
2. Press [● REC/STOP] to resume recording again. Recording will continue in the same direction as before.

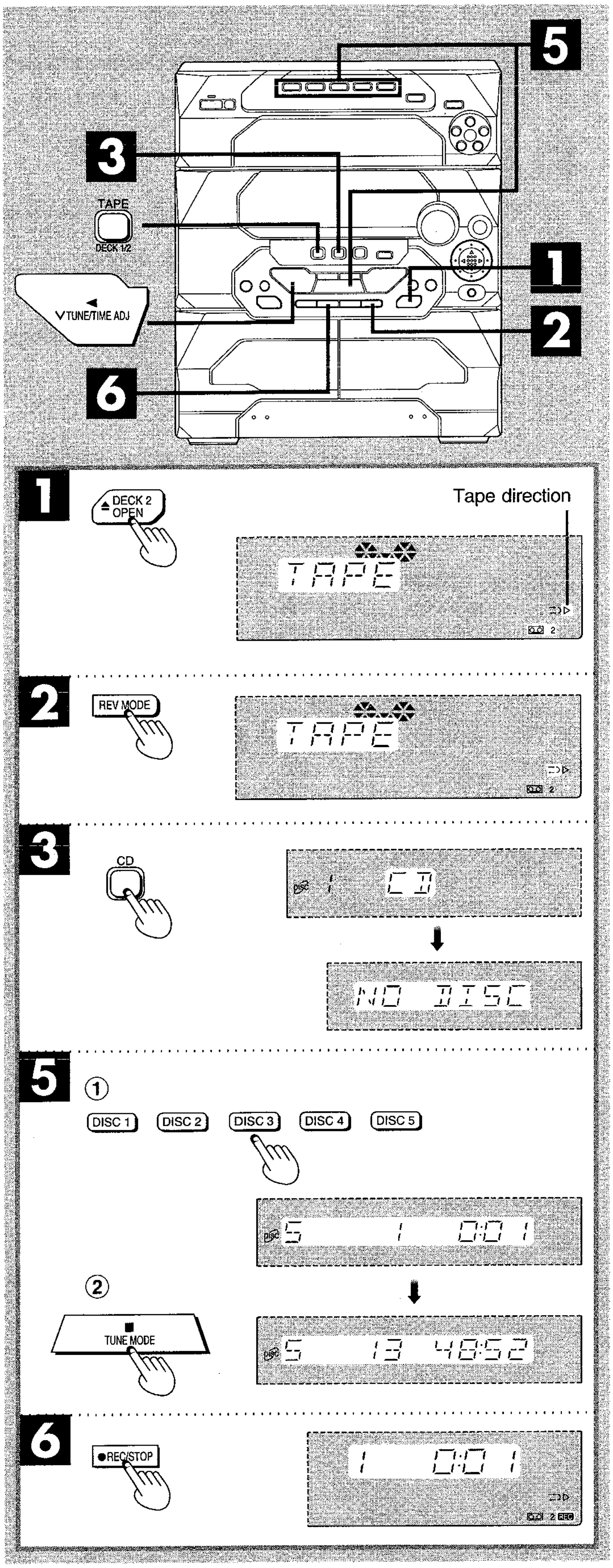
Note
When recording an AM broadcast, sound is momentarily interrupted when you start and stop the recording.

To reduce noise while AM recording (Beat proof function) A

Press [FM MODE/BP] while recording.
Each time you press the button, "BP1" and "BP2" will be displayed alternately.
Select the position where there is less noise.



■ Recording From Compact Discs


5
3
TAPE
DECK 1/2
◄
VTUNE/TIME ADJ
1
2
6
1
DECK 2 OPEN
Tape direction
TAPE
2
REV MODE
TAPE
3
CD
1 CD
NO DISC
5
①
DISC 1
DISC 2
DISC 3
DISC 4
DISC 5
5 1 0:01
②
■ TUNE MODE
5 13 48:52
6
●REC/STOP
1 0:01

1 **Press [≜ DECK 2 OPEN], and insert the tape.**
Close the holder by hand.
Tape direction is automatically set to "▷".

2 **Press [REV MODE] to select the reverse mode.**
Every time you press the button:

⇄ → ⇄) → (⇄)

⇄ : One side is recorded, then recording stops automatically.
⇄), (⇄) : Both sides (front side → reverse side) are recorded, then recording stops automatically.

3 **Press [CD].**

4 **Insert CD in the tray.**

5 **Press [DISC 1] – [DISC 5] to select the disc you want.**
Pressing [■] will stop playback.

6 **Press [● REC/STOP] to start recording.**

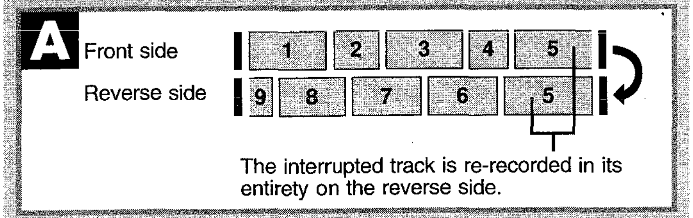
- If you selected "(⇄)" in step **2**, the direction will automatically change to "⇄)" when recording starts.
- The recording will proceed from the first track on the selected CD and will continue on through the last track of the final disc (page 26).
- The tape deck stops automatically when the CD is finished.

To stop recording

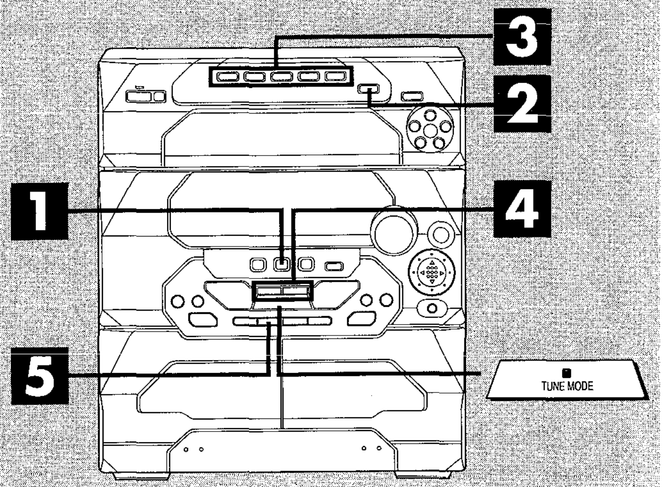
- To add a 4 second silent interval before stopping
  Press [■]. The CD will stop automatically too.
- To stop recording without a silent interval
  Press [● REC/STOP]. The CD will stop automatically too.

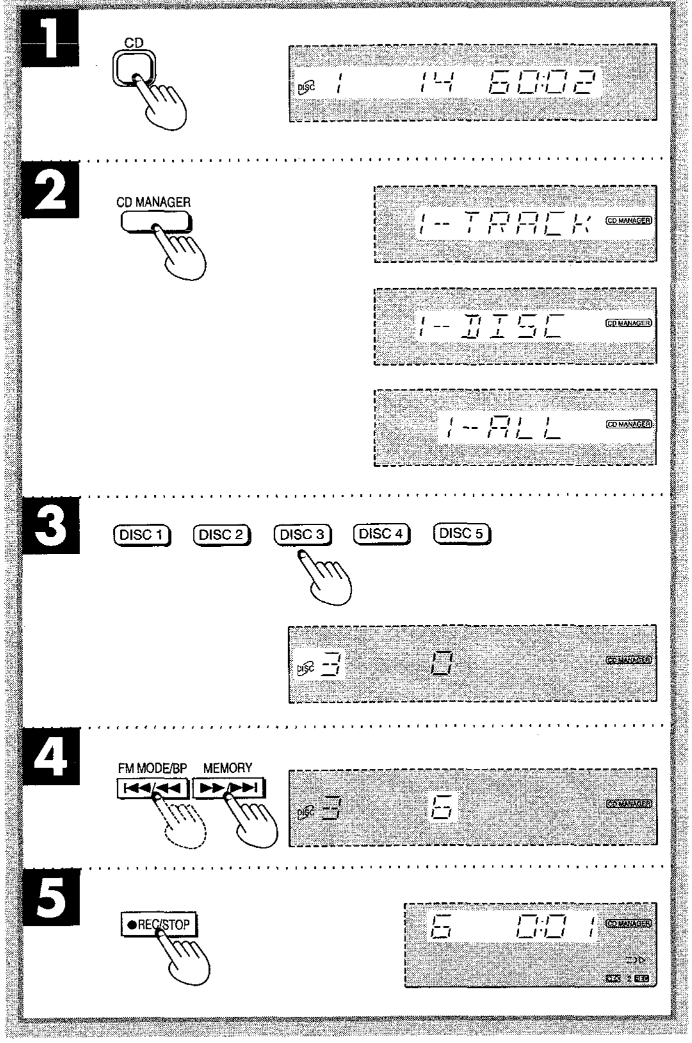
To start recording on the reverse side
Load a tape and change the tape direction as follows:
1. Press [TAPE DECK 1/2] and select tape deck 2.
2. Press [◄] and immediately thereafter [■]. The tape direction will be shown as "◁".

To record from a specific point on a tape
Before recording, advance the tape to the point from where you want to start recording.


A
Front side
Reverse side
1
2
3
4
5
9
8
7
6
5

The interrupted track is re-recorded in its entirety on the reverse side.


3
2
1
4
5
TUNE MODE


1
CD
1 14 60:02
2
CD MANAGER
1--TRACK
1--DISC
1--ALL
3
DISC 1
DISC 2
DISC 3
DISC 4
DISC 5
3 0
4
FM MODE/BP
MEMORY
3 6
5
●REC/STOP
6 0:01

To record special CDs and tracks (CD Manager function)

This function makes it easier for you to select special CDs and tracks from amongst those loaded in the player.

- While recording, if a track is cut off in the middle at the end of the front side, it is re-recorded from the beginning, on the reverse side. **A**
- At the end of the reverse side recording stops and the current track will be interrupted.

Before recording

Prepare the tape you want to use.

1 **Press [CD].**

2 **Press [CD MANAGER] to select the desired mode.**

Every time you press the button:

1-TRACK → 1-DISC → 1-ALL
↑—— NORMAL ←——┘
(OFF)

1-TRACK : Only one particular track is recorded.
1-DISC : The tracks on only one particular disc are recorded.
1-ALL : The same track numbers on each of the CDs are recorded in succession.
(NORMAL : The original display is restored in about 3 seconds.)

3 **Press [DISC 1] – [DISC 5] to select the disc you want.**

Note

This step is not required if 1-ALL was selected in step **2**.

4 **Press [⏮/◀◀] or [▶▶/⏭] to select the desired track.**

Note

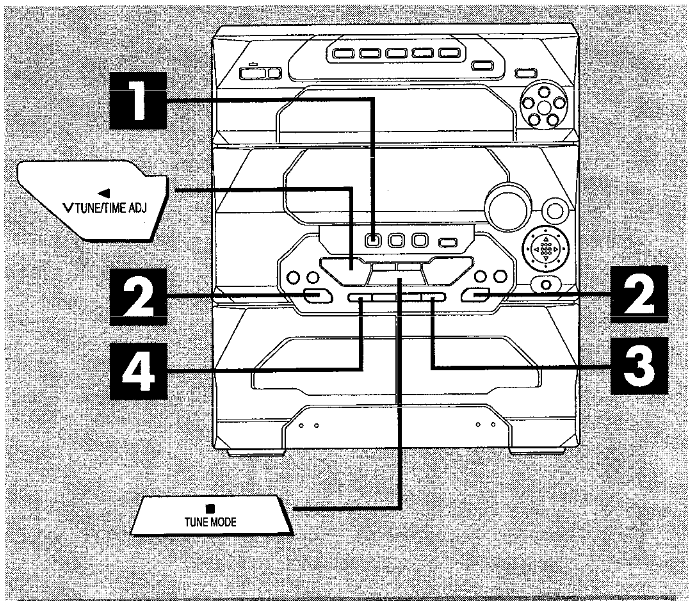
This step is not required if 1-DISC was selected in step **2**.

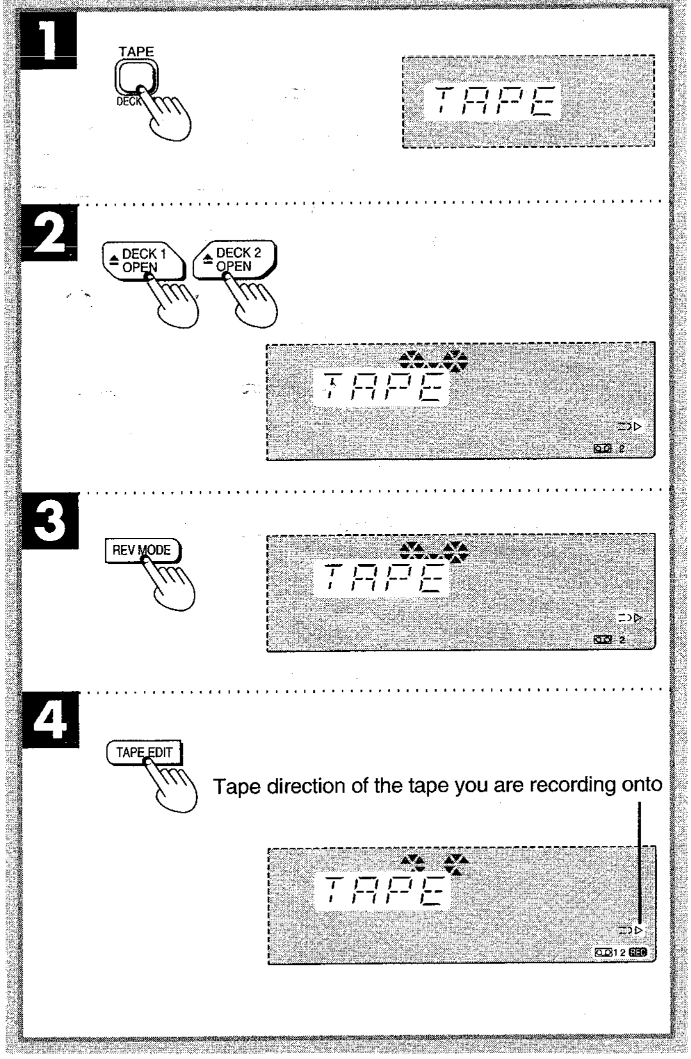
5 **Press [● REC/STOP] to start recording.**

To stop recording

- To add a 4 second silent interval before stopping
  Press [■]. The CD will automatically stop too.
- To stop recording without a silent interval
  Press [● REC/STOP]. The CD will stop automatically too.

■ Tape-to-Tape Recording





Tape direction of the tape you are recording onto

The recording level and the Dolby effect will be recorded as they are on the tape being played back.

1 **Press [TAPE].**

2 **Press [≜ OPEN] on both decks and insert the tapes.**
For playback : Into deck 1
For recording : Into deck 2
Close the holders by hand.
Tape direction is automatically set to "▷".

3 **Press [REV MODE] to select the reverse mode.**
Every time you press the button:

⇄ → ⇄) → (⇄)

⇄ : One side is recorded, then recording stops automatically.
⇄), (⇄) : Both sides (front side → reverse side) are recorded, then recording stops automatically.

4 **Press [TAPE EDIT] to start recording.**

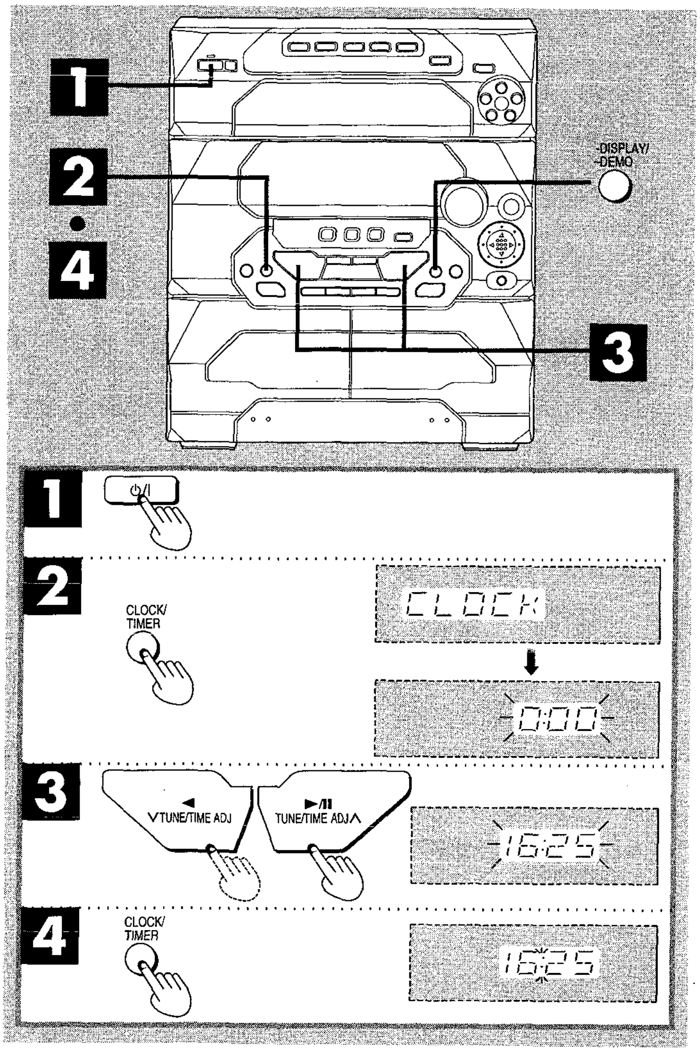
- If you selected "(⇄)" in step **3**, the direction will automatically change to "⇄)" when recording starts.

To stop recording:
Press [■].
Both decks will stop.

To start recording on the reverse side
Load a tape and change the tape direction as follows:
1. Press [TAPE DECK 1/2] and select tape deck 2.
2. Press [◄] and immediately thereafter [■]. The tape direction will be shown as "◁".

To record from a specific point on a tape
Before recording, advance the tape to the point from where you want to start recording.

Setting The Time


1
2
•
4
DISPLAY/
-DEMO
3
1
2
CLOCK/
TIMER
CLOCK
0:00
3
◄
VTUNE/TIME ADJ
►/II
TUNE/TIME ADJΛ
16:25
4
CLOCK/
TIMER
16:25

This is a 24-hour display clock.
This example in the figure shows how to set the time for 16:25 (4:25 p.m.).

1 **Press [⏻/I] to switch on the system.**

2 **Press [CLOCK/TIMER] to select "CLOCK".**
Every time you press the button:

CLOCK → ⊙PLAY → ⊙REC
↑ Previous display ←

3 **(within 7 seconds or so)**
Press [V] or [Λ] to show the present time.

4 **Press [CLOCK/TIMER] to finish setting the time.**
The display will return to whatever was displayed before you set the time.

To display the time when system is ON
Press [CLOCK/TIMER] to select "CLOCK".

At ECO mode on, to display the time when system is OFF
Press [-DISPLAY/–DEMO].

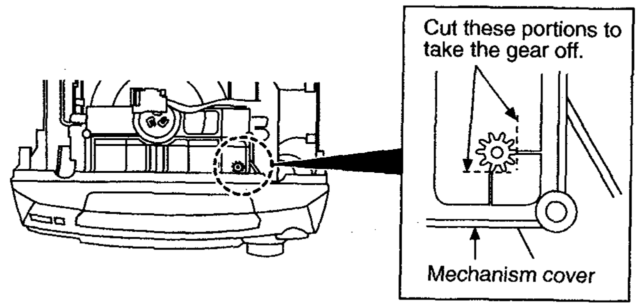
The time will be displayed for about 5 seconds and then the display will return to whatever was previously displayed.

Operation Checks and Main Component Replacement Procedures

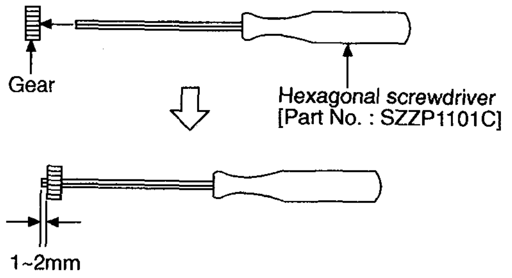
Gear for servicing (jig) information

1. This unit has a gear which is used for checking items (Open/close of disc tray, up/down operation of traverse unit by manually) when servicing.
2. For preparation of gear (for servicing), Perform the procedures as follows.
3. In case of re-servicing the same set, the "gear for servicing" may has been taken off because it has been used. The "gear for servicing" must be stored.

1. Remove the gear provided with mechanism cover as shown below.


Cut these portions to take the gear off.
Mechanism cover

2. Insert the hexagonal screwdriver (2mm) into the gear, and then project the tip of screwdriver for 1~2mm in length.


Gear
Hexagonal screwdriver
[Part No. : SZZP1101C]
1~2mm

"ATTENTION SERVICER" Some chassis components may have sharp edges. Be careful when disassembling and servicing.

1. **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
2. **For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**
3. **Select items from the following index when checks or replacement are required.**
4. **Refer the Parts No. on the page of "Main Component Replacement Procedures", if necessary.**

• Contents

page

- **Checking Procedure for each major P.C.B.**
  1. Checking of the Main, Tuner, Panel, Deck and Power P.C.B. .... 12 & 13
- **Main Component Replacement Procedures**
  1. Replacement of the Traverse Deck 14
  2. Replacement of the Power Amplifier IC and Regulator Transistors 15
- **Disassembly and assembly of the Traverse Unit** .... 16 & 17
- **Disassembly and assembly of the Disc Tray** .... 17 & 18

Warning : This product uses a laser diode. Refer to caution statement on page 3.
ACHTUNG : • Die Lasereinheit nicht zerlegen.
• Die Lasereinheit darf nur gegen eine vom Hertsteller spezifizierte Einheit ausgetauscht werden.

■ Checking Procedure for each major P.C.B.

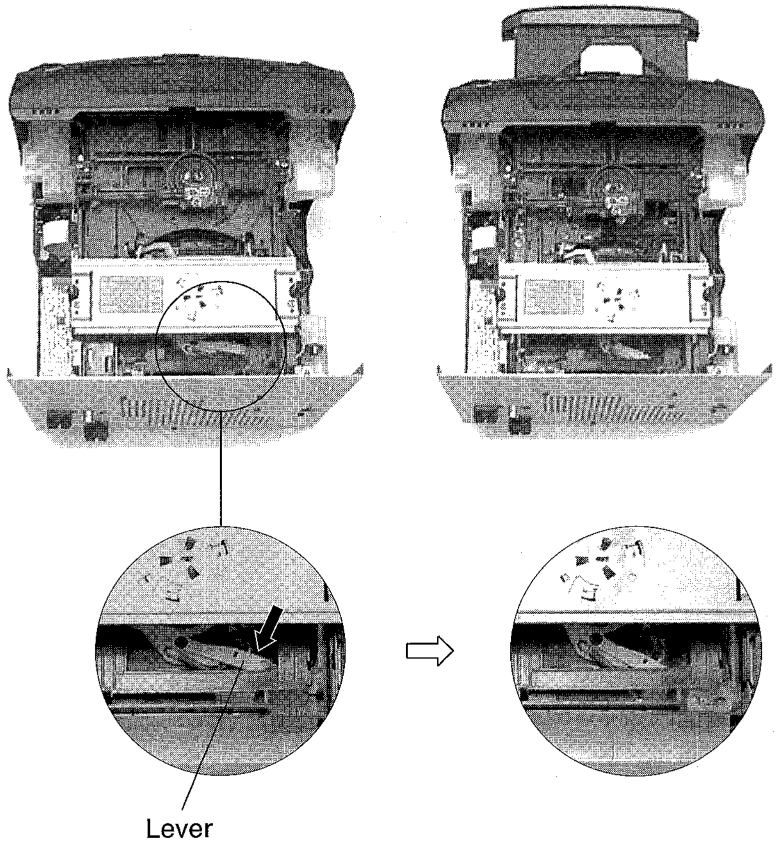
1. Checking of the Main, Tuner, Panel, Deck and Power P.C.B.

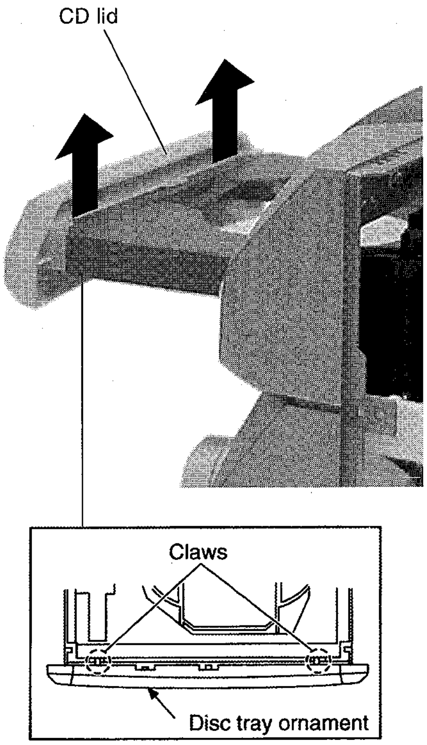
ⓐ [XTBS3+8JFZ1] (Black)

Step 1 Remove the Top Cabinet.

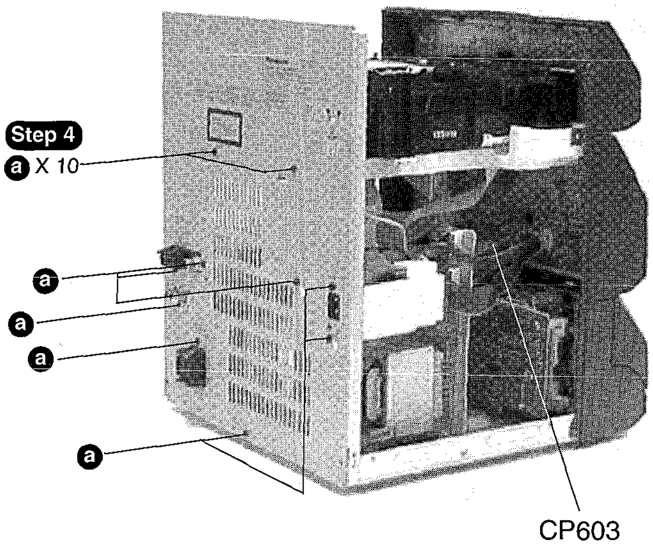
Step 2 Push the lever in the direction of arrow.

Step 3 Pull out the CD tray as shown and remove the CD lid. Push back the CD tray after the CD lid has been removed.

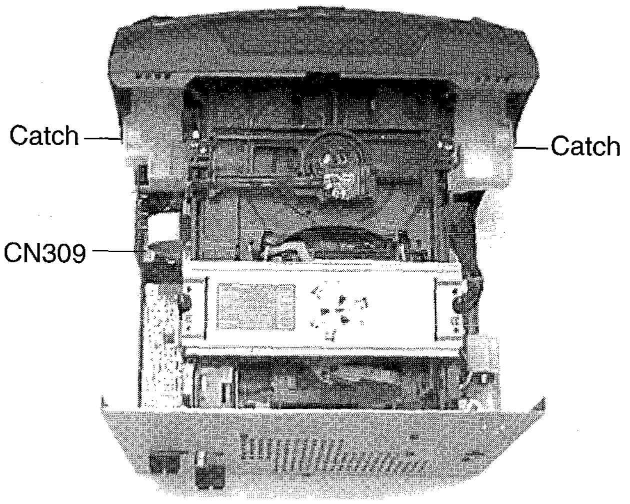




(Bottom view)

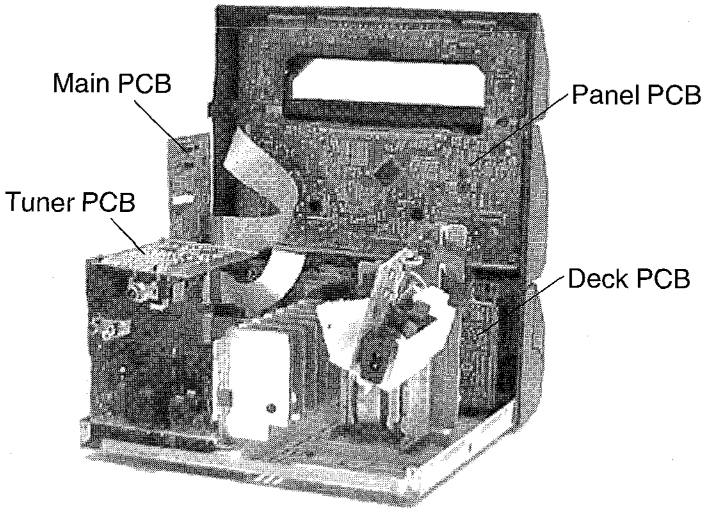

Step 4
a X 10
a
a
a
a
CP603

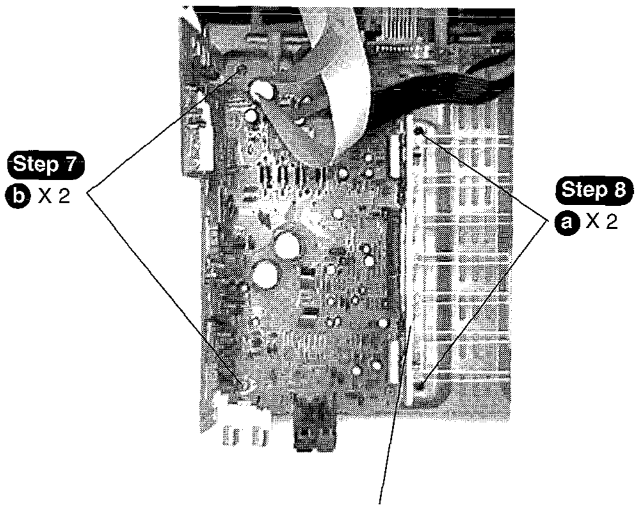
Step 6 Release 2 catches and remove the CD changer base together with the CD changer.


Catch
Catch
CN309

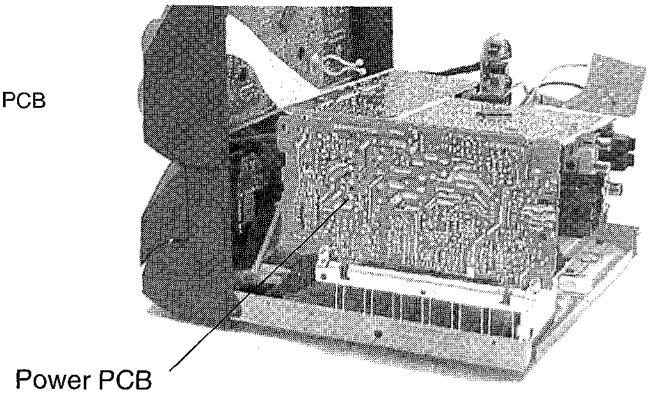
Step 5 Remove the wire at CP603 and CN309.

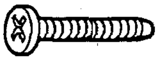
- Checking for Panel PCB, Main PCB and Deck PCB


Main PCB
Panel PCB
Tuner PCB
Deck PCB


Step 7
b X 2
Step 8
a X 2
Heat Sink

- Checking for Power PCB



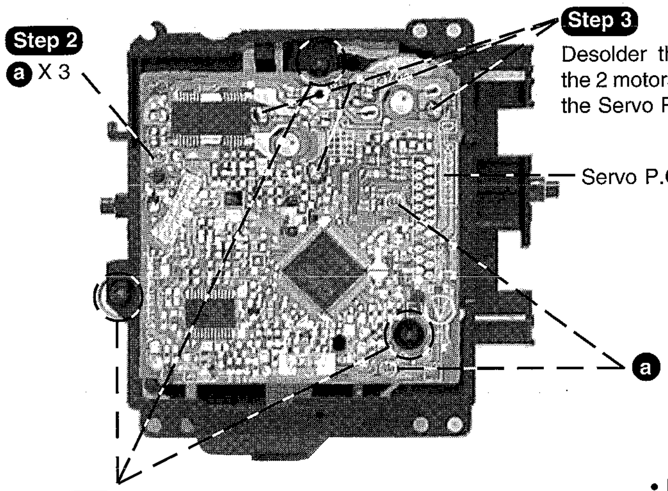


b
[XTB3+20J]
(Brass)

■ Main Component Replacement Procedures

1. Replacement of the Traverse Deck

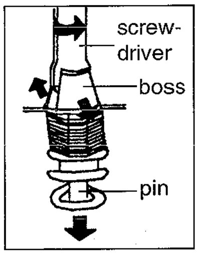
Step 1 Follow the procedures in 'Disassembly of the Traverse Unit' (**Step 1** ~ **Step 4**).

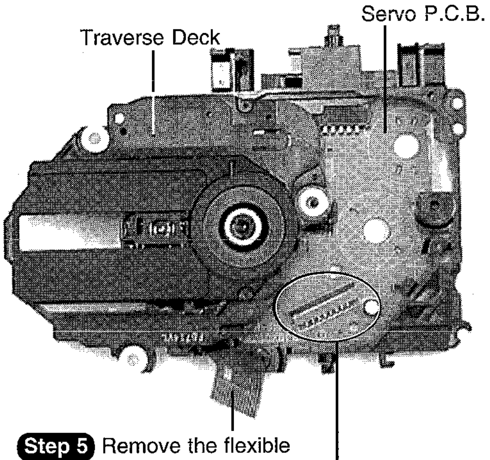


Step 2 a X 3

Step 3 Desolder the 4 legs of the 2 motors and pull out the Servo P.C.B.

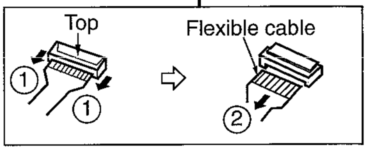
Step 4 Widen the 3 bosses with a flat screwdriver and pull out the 3 pins. Then remove the Traverse Deck.


screw-driver
boss
pin

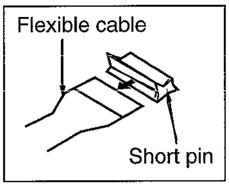

Traverse Deck
Servo P.C.B.

Step 5 Remove the flexible cable CN701.

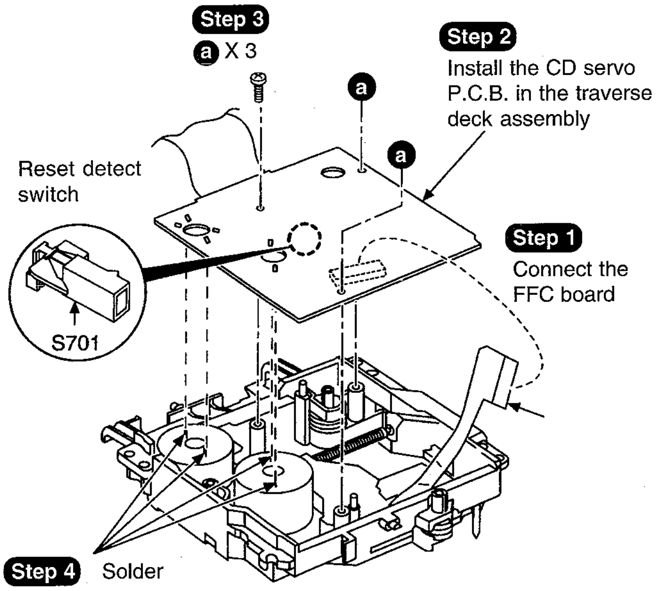
- Removal of the flexible cable
Push the top of the connector in the direction of the arrow ①, and then pull out the flexible cable in the direction of the arrow ②.


Top
Flexible cable
①
①
②

Note :
Insert a short pin into the flexible cable for traverse unit.


Flexible cable
Short pin

●Installation fo the CD servo P.C.B. after replacement


a
a
Reset detect switch
S701

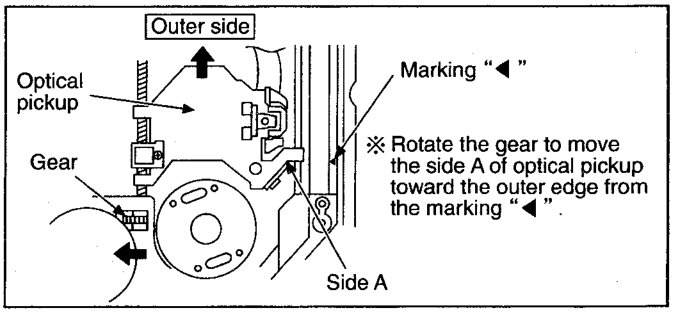
Step 3 a X 3

Step 2 Install the CD servo P.C.B. in the traverse deck assembly

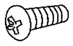
Step 1 Connect the FFC board

Step 4 Solder

Note : Before installing the CD servo P.C.B., move the optical pickup toward the outer edge from the mark "◀".
[Otherwise, the reset detect switch (S701) mounted on the CD servo P.B.C. may be damaged.]


Outer side
Optical pickup
Gear
Marking "◀"
Side A

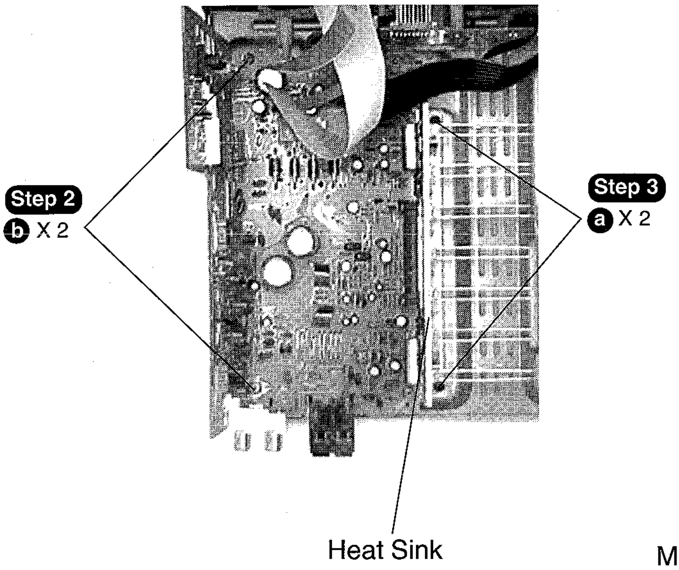
※ Rotate the gear to move the side A of optical pickup toward the outer edge from the marking "◀".

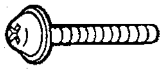
a 

[XTN2+6G] (Brass)

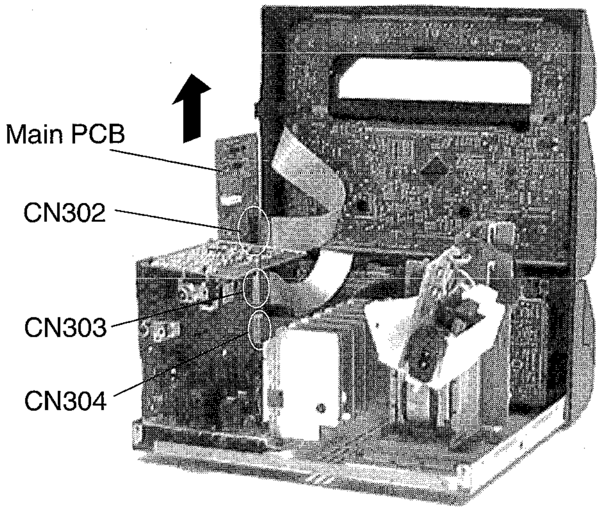
2. Replacement of the Power Amplifier IC and Regulator Transistor.

Step 1 Follow the procedures in 'Checking Procedure for each major P.C.B.' (Step 1 ~ Step 6).

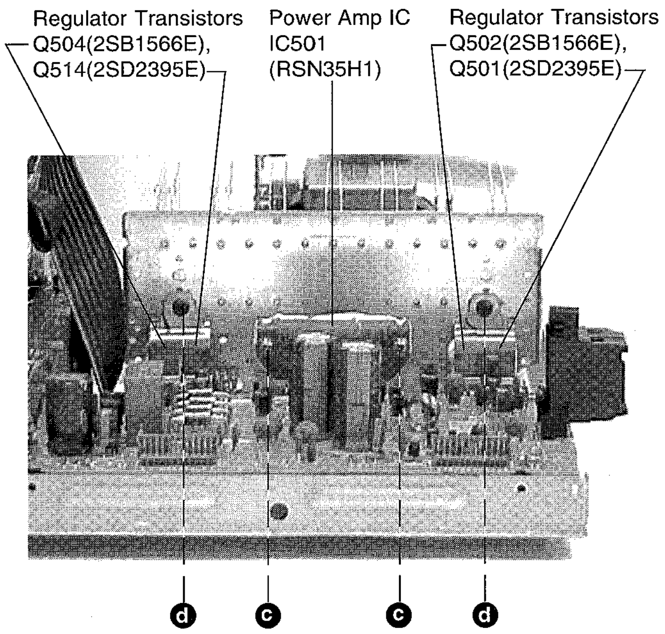

Step 2
b X 2
Step 3
a X 2
Heat Sink

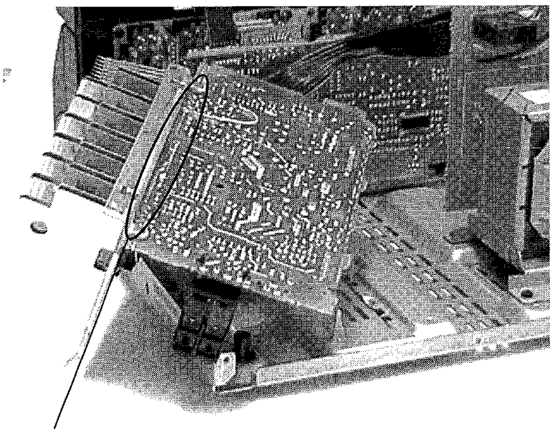
ⓐ	 [XTBS3+8JFZ1] (Black)
ⓑ	 [XTB3+20J] (Brass)
ⓒ	 [XTW3+15T] (Brass)
ⓓ	 [XTB3+10JFZ] (Black)

Step 4 Remove the wires at CN302, CN303 and CN304 and pull out the Main PCB.


Main PCB
CN302
CN303
CN304

Step 5 Remove 4 screws fixed to the Power Amplifier IC and Transistor Holders.

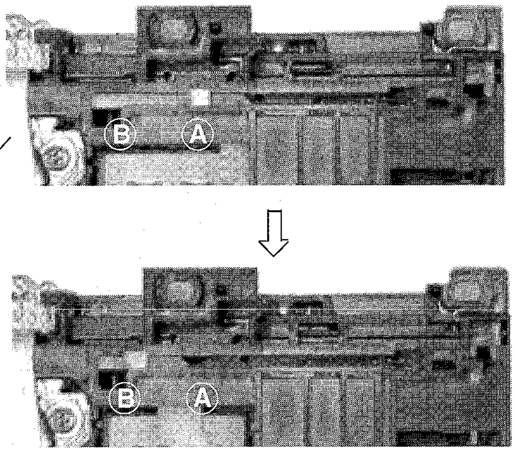

Regulator Transistors
Q504(2SB1566E),
Q514(2SD2395E)
Power Amp IC
IC501
(RSN35H1)
Regulator Transistors
Q502(2SB1566E),
Q501(2SD2395E)
d
c
c
d



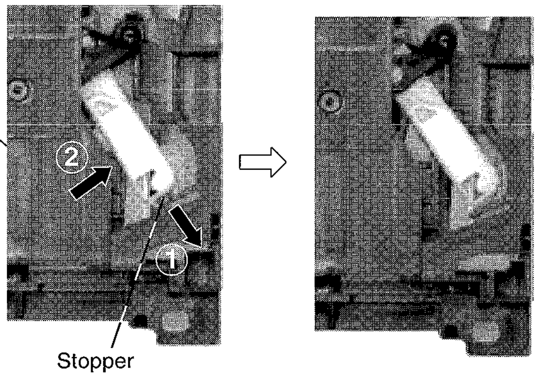
Step 6 Unsolder the terminals of Power Amp IC or Regulator Transistor and replace the respective component.

■ Disassembly and assembly of the Traverse Unit

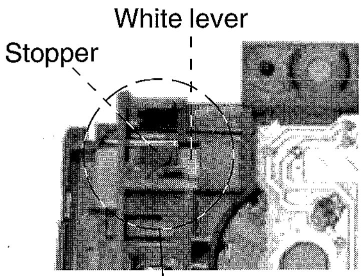
Step 1 Push the lever from position Ⓐ to Ⓑ.

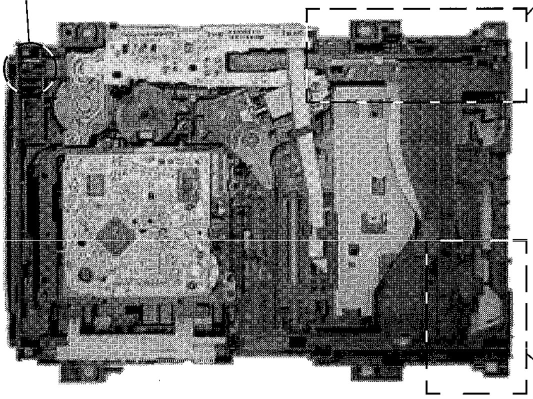


Step 2 Pull the stopper (black) in the direction of arrow ① and push the lever is the direction of arrow ②.

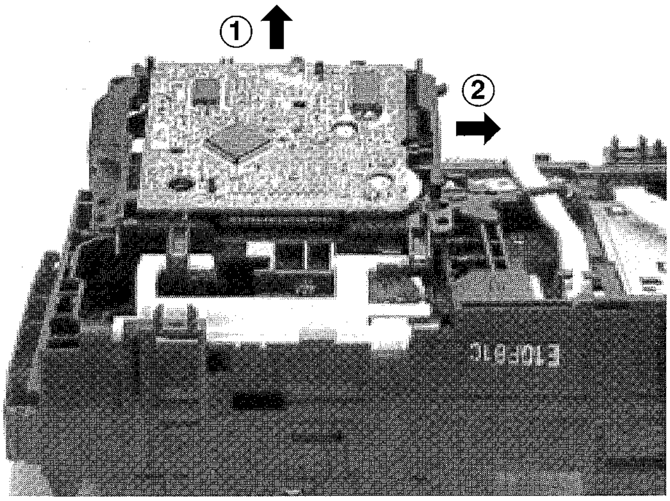


Step 3 Push the stopper (black) down until the white lever eject out.





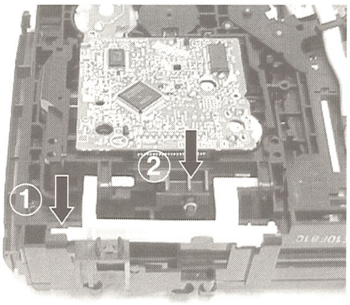
Step 4 Lift up the traverse unit and slide out the unit as shown.



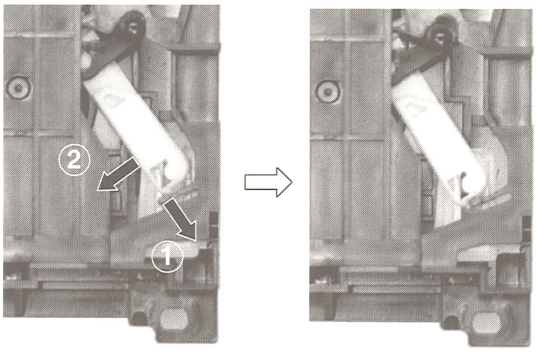
●Replacement of Traverse Unit

Step 1 Place the traverse unit as shown.

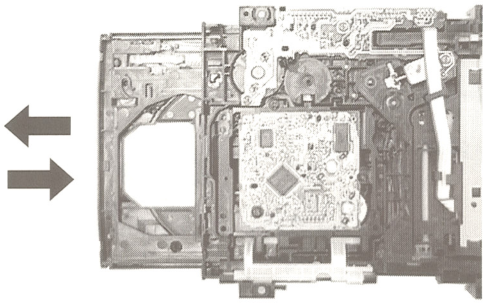
Step 2 Press in the lever shaft in the direction of arrow ① as shown and push the traverse unit into position in the direction of arrow ② .



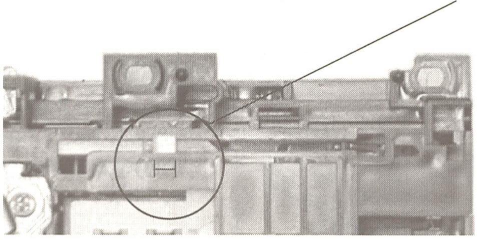
Step 3 Pull the stopper in the direction of arrow ① and release the lever in the direction of arrow ② as shown.



Step 4 Pull out the tray half way and push it back fully.



Step 5 Push the lever to the initial position indicated ' ⊢⊣ '.

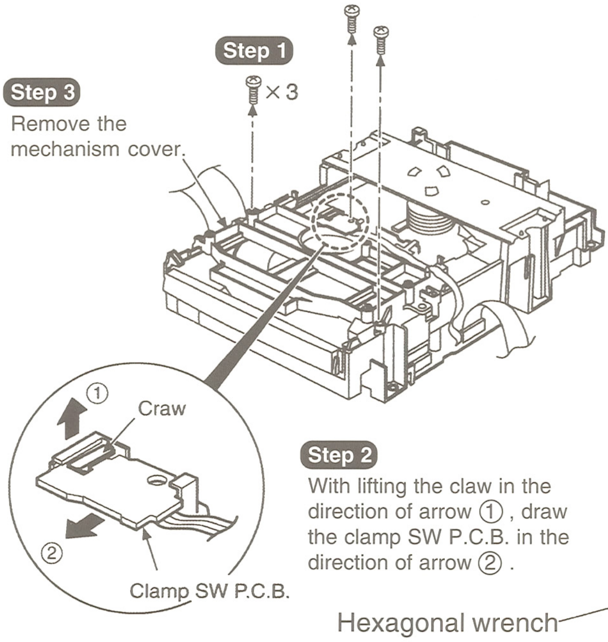


Disassembly and assembly of the Disc Tray

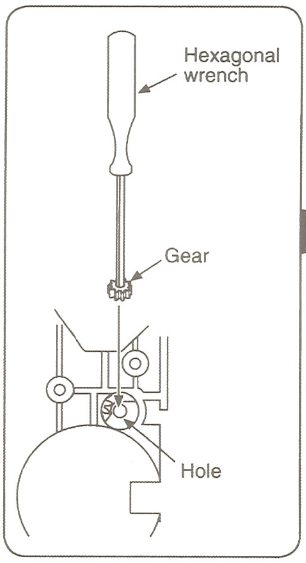
Step 1

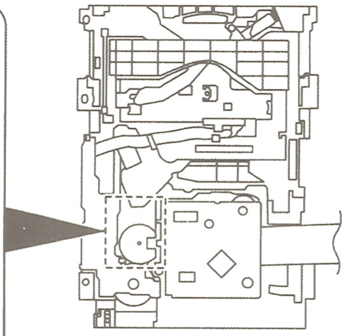
×3

Step 3
Remove the mechanism cover.

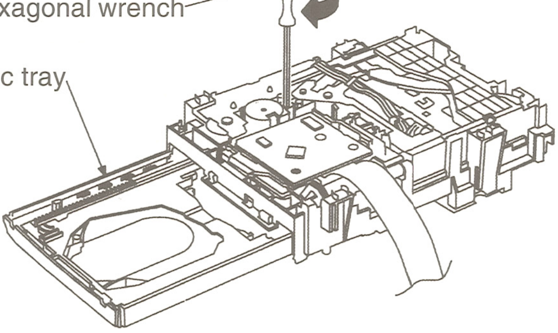


Step 2
With lifting the claw in the direction of arrow ① , draw the clamp SW P.C.B. in the direction of arrow ② .



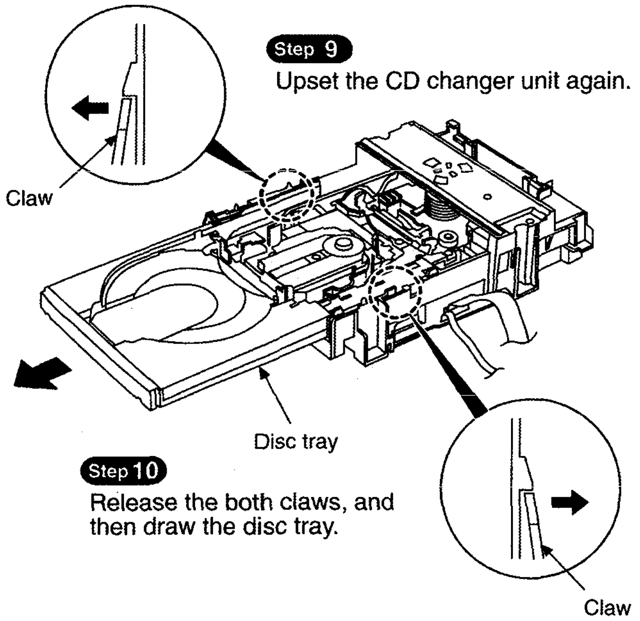


Step 4
Insert the gear with hexagonal wrench into the hole.



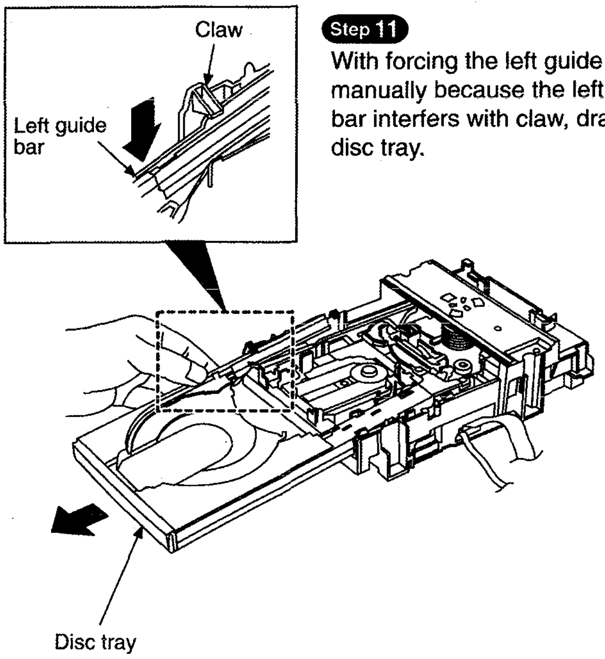
Step 5
Rotate the hexagonal wrench in the direction of arrow (clockwise), and then open the disc tray fully.

Step 9
Upset the CD changer unit again.


Claw
Disc tray
Claw

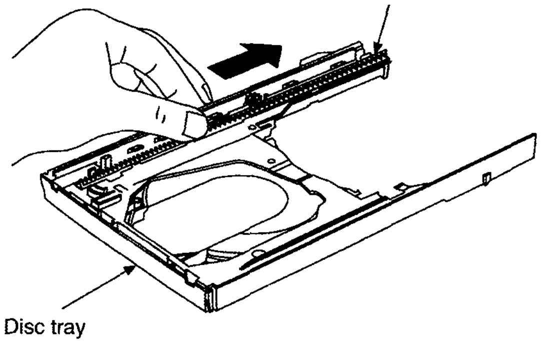
Step 10
Release the both claws, and then draw the disc tray.

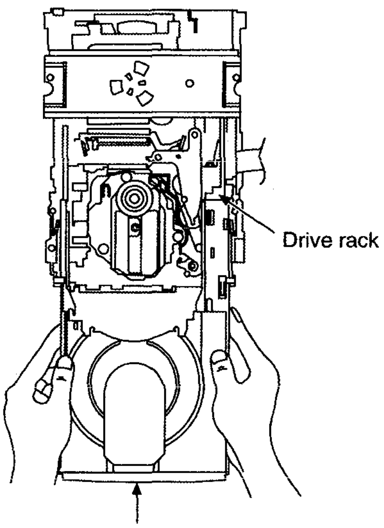
Step 11
With forcing the left guide bar manually because the left guide bar interfers with claw, draw the disc tray.


Claw
Left guide bar
Disc tray

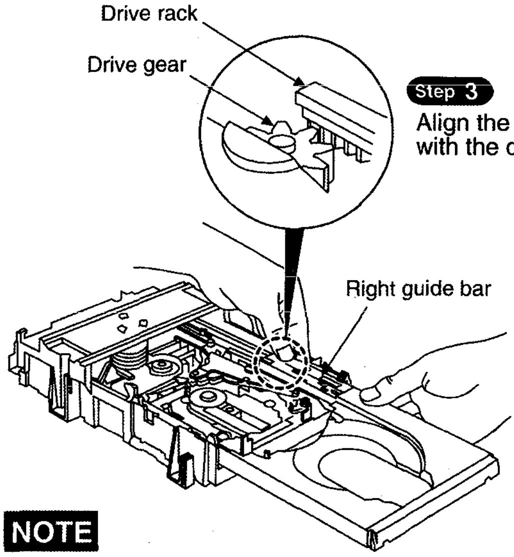
Installation of the disc tray after replacement

Step 1
Slide the drive rack fully in the direction of arrow.




Drive rack
Disc tray

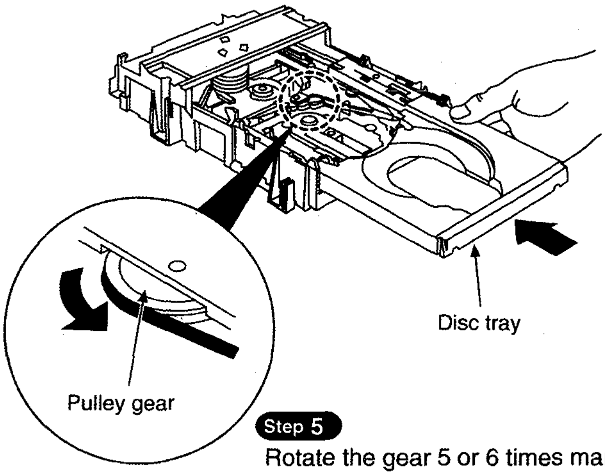
Step 2
Holding the drive rack not to move, install the disc tray


Drive rack
Drive gear
Right guide bar

Step 3
Align the drive rack with the drive gear.

NOTE
Force the right guide bar of tray base manually not to move upwards.

Step 4
Holding the disc tray manually,rotate the pulley gear in the direction of arrow.


Disc tray
Pulley gear

Step 5
Rotate the gear 5 or 6 times manually, and then push the disc tray.

■ Self-Diagnostic Display Function

■ Self-diagnostic display

This unit is equipped with a self-diagnostic display function which, if a problem occurs, will display an error code corresponding to the problem.

Use this function when performing maintenance on the unit.

■ How to enter the Self-Diagnostic Function

POWER ⏻/I — Turn the unit on with no cassette in the deck. (SELECTOR : TAPE)

⬇

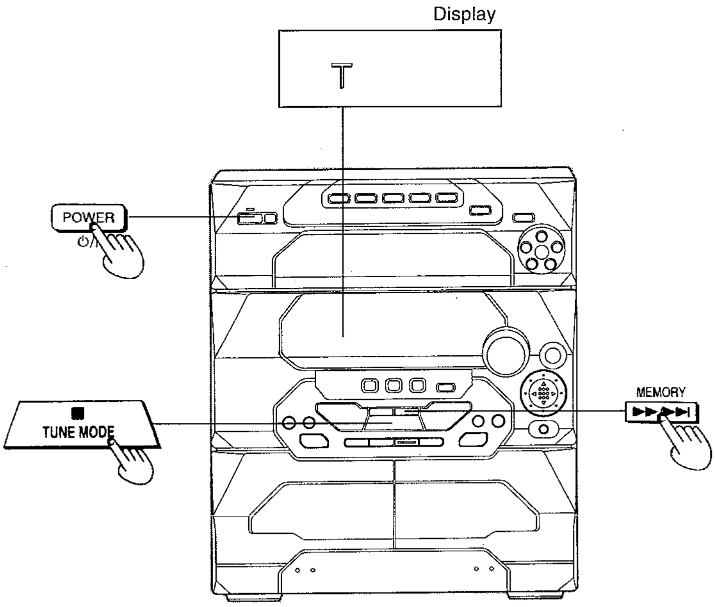
■ TUNE MODE — Press and hold the "■ TUNING MODE" button for at least 2 seconds.

⬇

■ TUNE MODE / MEMORY ▶▶/▶▶I — While pressing the "■ TUNING MODE" button, press "▶▶/▶▶I MEMORY/SET" button for at least 2 seconds.

⬇

Display: T — "T" will appear on the FL display. (unit is in the Self-Diagnostic Function.)



■ Cassette Mechanism Test (For error code H01, H02, H03, F01, F02)

1. Press "TAPE, DECK 1/2" to select Deck 2.
2. Load a cassette tape with the erasure prevention tab, remove from left side only and close the cassette holder.
3. Press "▶▶/▶▶I MEMORY" (Tape will be stop after 2 seconds).
4. Load a cassette tape with the erasure prevention tab, remove from right side only and close the cassette holder.
5. Press "I◀◀/◀◀ FM MODE/BP" (Tape will be stop after 2 seconds).
6. Load a pre-recorded tape with both side record tabs intact and close the cassette holder.
7. Press "▶ TUNE/TIME ADJ∧" (After TPS function, tape will stop automatically).
8. Press "•REC/STOP" (Tape will not move).
9. Press "■ TUNING MODE" to indicate Error code.
   - If several problem exist, error code will change each time when "■ TUNING MODE" is pressed. (e.g. H01 H03 F01 ..... etc.)
10. Press "TAPE, DECK 1/2" to select Deck 1.
11. Repeat step 2 to 9 to test Deck 1. (Tape Deck 1 will not check H02 because of no recording function)

■ CD Mechanism Test (F15, F16, F25 ~ F28, F75)

1. Press "CD".
2. Press "NEXT OPEN".
3. Press "■ TUNING MODE" to indicate Error Code.
   - If several problem exist, error code will change each time when "■ TUNING MODE" is pressed. (e.g. F15 F16 F25 ..... etc.)

■ To clear all Error code

1. Press "■ TUNING MODE" button for 5 seconds.
2. FL indicator shows "CLEAR" for 1 second and change to "T".

■ How to get out from Self-Diagnostic function

1. Press "POWER" button OFF.

■ Power Amplifier Failure (F61)

1. When power amplifier fail, F61 will indicate automatically.

■ Description of Error Code

(1) Error detection for Cassette Mechanism block

No.	Error	Error Display	Problem condition
1	MODE SW detection error	H01	Faulty operation of cassette mechanism. Faulty contact or short-circuit of mechanism mode switch (S951, S971).
2	REC INH SW detection error	H02	Recording not possible. Faulty contact or short-circuit of REC INH switch (S974, S975).
3	HALF SW detection error	H03	Playback can not perform. Faulty contact or short-circuit of HALF switch (S952, S972).
4	Reel Pulse detection error	F01	The tape advances slightly and then stops. Faulty reel pulse, faulty hole detect IC (IC951, IC971).
5	TPS abnormal	F02	Cassette deck will not perform TPS function. Faulty playback EQ/recording amplifier IC (IC101).

(2) Error detection for CD/Changer block

No.	Error	Error Display	Problem condition
1	REST SW detection error	F15	CD does not function. This error occurs when the Optical Pick Up REST SW (S701) is not detected within the specified time (about 8 seconds)
2	Transmission error between CD servo LSI and micon	F26	CD does not function. This error occurs when the POWER is ON for the CD block and an error is detected after the transmission has started.
3	CD power error	F75	CD does not function. Check if CDRST is H for SELECTOR at CD. If it is not H after 1 second, it shall be memorised as an error. (IC702)

(3) Power Supply related error detection

No.	Error	Error Display	Problem condition
1	POWER AMP output abnormal	F61	When POWER is switched on, power become off automatically. During normal operation, if DC DET become L, PCNT shall become L and the error display on the left shall be displayed. (IC501)

■ CD Test Mode Function

This CD test mode is provided to check CD unit without connecting to changer loading mechanism. This mode shall operate CD PLAY with CD unit being connected only and CD Automatic Alignment result is shown on FL display.

■ How to set CD test mode

Prepare and set up the CD unit

CD

Press CD

↓

TUNE MODE

Press and hold the "■ TUNING MODE" button at least 2 seconds.

↓

TUNE MODE

MEMORY

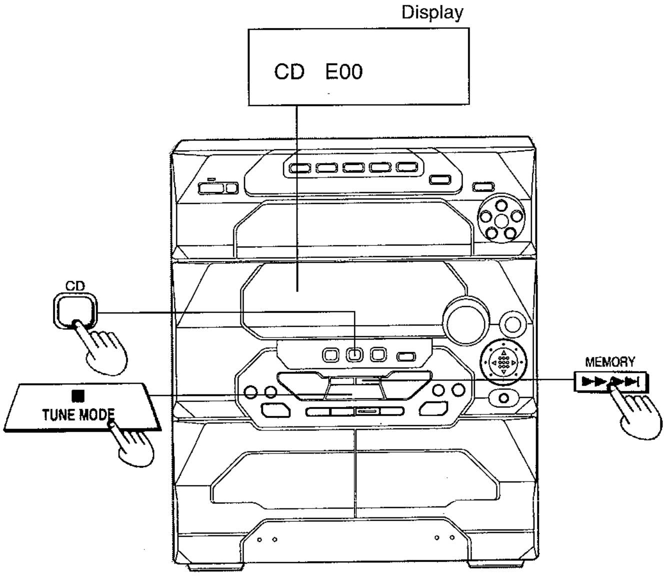
While pressing the "■ TUNING MODE" button, press "▶▶/▶▶| MEMORY/SET" button for at least 2 seconds.

↓

Display

CD E00

Automatic Alignment result appear on the FL display.



■ CD Automatic Alignment result indication

This function provided indication of error code as the result of Automatic Alignment of CD (Tracking, Focus, Offset, etc.). Based on these error codes, the faulty area can be located .

■ Error code Explanation

- The unit is satisfactory if the error code is E00
- Before testing, make sure that the test disc is free of scratches, dirt and that the optical pick up lens is clean.

Error code	E00	E01	E02	E03	E04	E05	E06	E07	E08	E09	E0A	E0B	E0C	E0D	E0E	E0F
Focus offset	○	※	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Tracking offset	○	※	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Focus Gain (Rough)	○	※	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Tracking Gain(Rough)	○	–	○	×	○	×	○	×	○	×	○	×	○	×	○	×
Tracking balance	○	–	×	×	○	○	×	×	○	○	×	×	○	○	×	×
Focus balance	○	–	○	○	×	×	×	×	○	○	○	○	×	×	×	×
Tracking or Focus Gain (Fine)	○	–	○	○	○	○	○	○	×	×	×	×	×	×	×	×

○ Satisfy × Fault (※ Fault either items)

■ Measurements and Adjustments
< CASSETTE DECK SECTION >

- Measurement Condition
  - Reverse-mode selector switch :⊂⊃
  - Tape edit : NORMAL
  - Record timer : OFF
  - Make sure head, capstan and pressure roller are clean.
  - Judgeable room temperature 20 ± 5 °C (68 ± 9 °F)
- Measuring instrument
  - EVM (Electronic Voltmeter)
  - Digital frequency counter
- Test tape
  - Head azimuth adjustment (8 kHz, –20 dB); QZZCFM
  - Tape speed adjustment (3 kHz, –10 dB); QZZCWAT
  - Playback gain adjustment (315 Hz, 0 dB); QZZCFM
  - Normal reference blank tape; QZZCRA
  - CrO_2 tape; QZZCRX

• Head Azimuth Adjustment (Deck 1/2)

Caution :

- Please replace both azimuth adjustment screws (RHE5152ZB) and springs (RMB0331) simultaneously when readjusting the head azimuth. (shown in Fig. 2)
  Even if you wish to readjust the head azimuth without replacing the screws and springs, a fine adjustment cannot be done because of the screw-locking bond adhered to the azimuth screw and spring.
- Please remove the screw-locking bond left on the head base when replacing the azimuth screw.
- If you wish to readjust the head azimuth, be sure to adjust with adhering the cassette tape closely to the mechanism by pushing the center of cassette tape with your finger. (shown in Fig. 3)

1. Playback the azimuth adjustment portion (8 kHz, –20 dB) of the test tape (QZZCFM) in the forward play mode. Vary the azimuth adjusting screw until the output of the R-CH (PB OUT-R) are maximized.
2. Perform the same adjustment in the reverse play mode.
3. After the adjustment, apply screwlock to the azimuth adjusting screw.

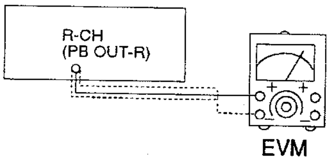


Fig. 1

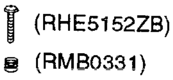


Fig.2

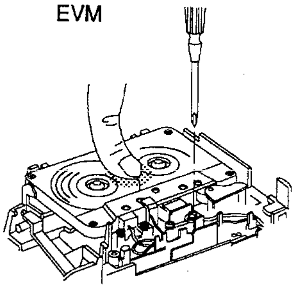


Fig. 3

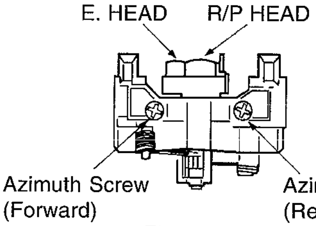


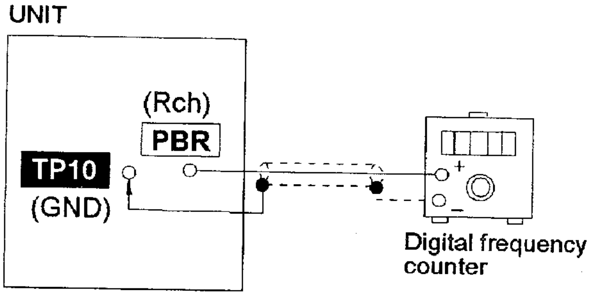
Fig. 4

• Tape Speed Adjustment (Deck 1/2)

1. Set the tape edit button to "NORMAL" position.
2. Insert the test tape (QZZCWAT) to DECK 2 and playback (FWD side) the middle portion of it.
3. Adjust Motor VR (DECK 2) for the output value shown below.

Adjustment target : 2940 ~ 3060 Hz (NORMAL speed)

4. After alignment, assure that the output frequency of the DECK 2 REV and DECK 1 FWD are within **±45 Hz** and **± 60 Hz** respectively of the value of the output frequency of DECK 2 FWD.

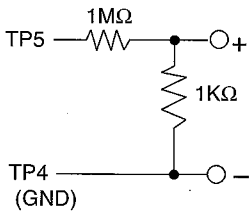


• Bias and Erase Voltage Check

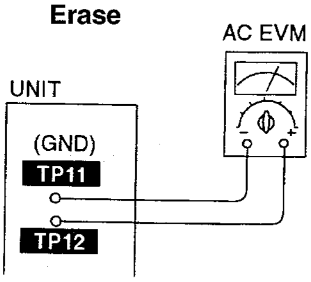
1. Set the unit to "AUX" position.
2. Insert the Normal blank tape (QZZCRA) into DECK 2 and set the unit to "REC" mode (use "•REC / STOP" key).
3. Measure and make sure that the output is within the standard value.
4. Insert the CrO_2 tape (QZZCRX).
5. Repeat steps 2 and 3.

Bias voltage for Deck 2 (Standard value) :	**19 ± 4mV (Normal)** **27 ± 5mV (CrO_2)**
Erase voltage for Deck 2 (Standard value) :	**more than 70mV (Normal)** **more than 90mV (CrO_2)**

Bias



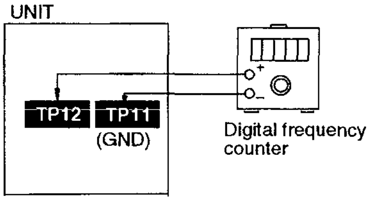
Erase



• Bias Frequency Adjustment (Deck 2)

1. Set the unit to "AUX" position.
2. Insert the Normal blank tape (QZZCRA) into DECK 2 and set the unit to "REC" mode (use "•REC / STOP" key).
3. Adjust L601 so that the output frequency is within the standard value.

Standard Value : 95 ± 8 kHz


UNIT
TP12
TP11
(GND)
+
–
Digital frequency counter

< TUNER SECTION >

■ AM-IF ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT (Shown in **Fig. 3**)	REMARKS
CONNECTIONS	FREQUENCY				
Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	450kHz 30 % Mod. at 400Hz	Point of non-interference.(on/about 600kHz	Headphones Jack (32Ω) (Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument.)	Z102 (AM IFT)	Adjust for maximum output.

■ AM-RF ALIGNMENT

"	522 kHz	Tuning capacitor fully closed	"	Z101(GN) (AM OSC Coil)	Adjust for maximum output.
"	603 kHz	Tuning to signal	"	Z101(GN) (AM ANT Coil)	Adjust for maximum output.

• Alignment Points

<Cassette Deck Section>

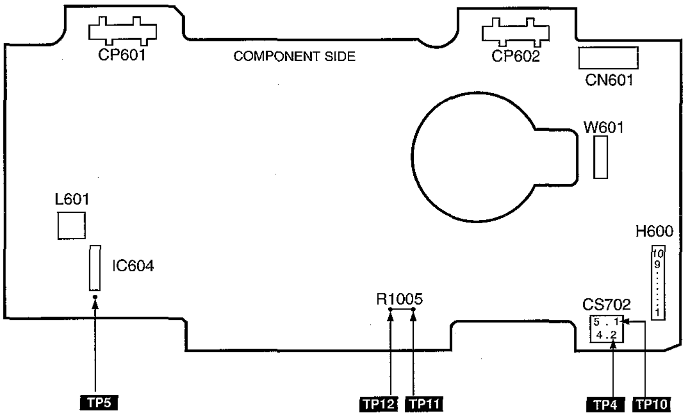

CP601
COMPONENT SIDE
CP602
CN601
W601
L601
IC604
H600
10
9
1
R1005
CS702
5 . 1
4 . 2
TP5
TP12
TP11
TP4
TP10

Fig. 1

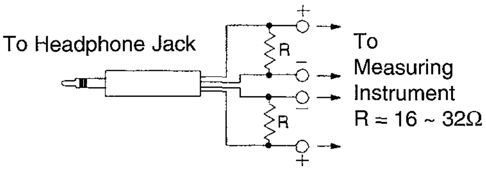

To Headphone Jack
R
R
+
–
–
+
To Measuring Instrument
R ≒ 16 ~ 32Ω

Fig. 2

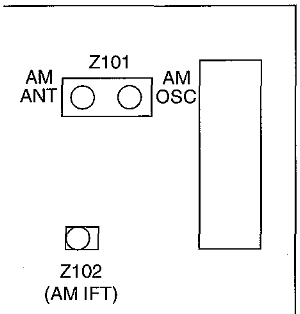
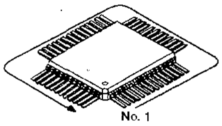

Z101
AM ANT
AM OSC
Z102
(AM IFT)

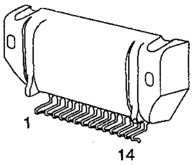
Fig. 3

■ Illustration of IC's, Transistors and Diodes

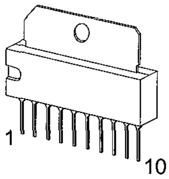
M38198MCA824(100P)
MN662746RPK1(80P)
M62433AFP(80P)



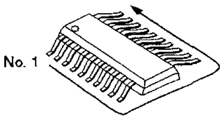
RSN35H1



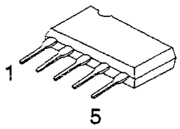
TA7291P



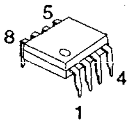
BA3835F-E2(18P)
BU2090AF-E2 (16P)
BA4558FE2 (8P)
LA1833MN-TLM (24P)
LC72131MDTRM (20P)
AN7348STA-E1 (24P)



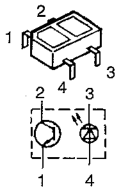
BA7755A



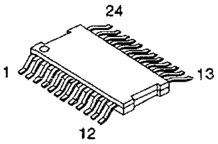
M5218AP



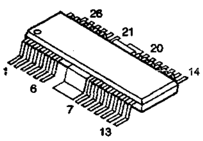
0N2180RLC



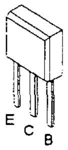
AN8837SBE1



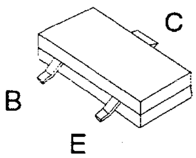
AN8780NSBE2


28
21
20
14
1
6
7
13

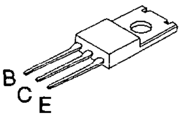
2SJ498CDTA



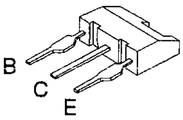
2SA1037AKSTX
DTC114YKA146



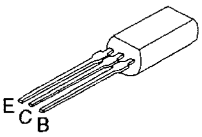
2SD2395E
2SB1566E



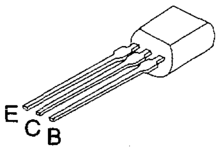
2SB1238QRTV2



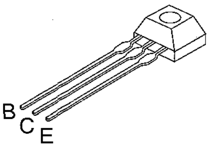
2SC3940AQSTA



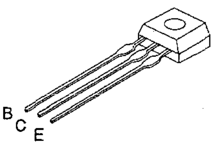
KTA12710YTA
KTC32030YTA
2SD965RTA
KSB564ACYGTA



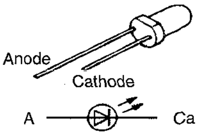
KRC109MTA
KRA102MTA
KRC111MTA
KRA110MTA
KRC103MTA
KRC102MTA
KRC114MTA



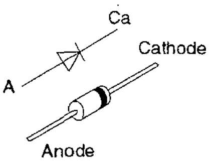
KTC3199GRTA
RVTDTC143EST
RVTDTA114EST
2SC2784FTA
2SA933SSTA
RVTDTC114EST
2SC1740SSTA
2SC2785FTA
2SC2787LTA
2SD2144STA
2SD1450STA



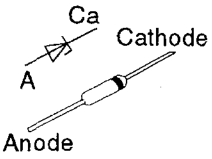
SLR325DCT31
SLR325MCT31W


Anode
Cathode
A
Ca

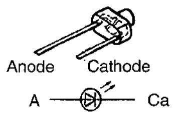
1D3E
1N5402BM21
RL1N4003N02


Ca
Cathode
A
Anode

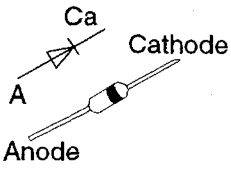
MTZJ10BTA
MTZJ4R7BTA
MTZJ5R1BTA
MTZJ15CTA
MTZJ33BTA
MTZJ12BTA
MTZJ5R6BTA
MTZJ6R2BTA
MTZJ8R2CTA
MTZJ7R5ATA
MA4020LTA
MTZJ3R6BTA


Ca
Cathode
A
Anode

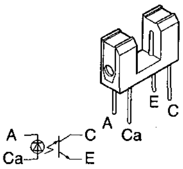
LN201LPQJA


Anode
Cathode
A
Ca

RVD1SS133TA
1SS291TA
MA165TA


Ca
Cathode
A
Anode

GP1S94


E
C
A
Ca
A
C
Ca
E

Blank

■Terminal Function of IC's

• IC701 (AN8837SBE1) Servo Amplifier

Pin No.	Mark	I/O	Function
1	PDE	I	Tracking signal input terminal 1 (E ch)
2	PDF	I	Tracking signal input terminal 2 (F ch)
3	VCC	I	Power supply connection
4	PDA	I	Focus signal input terminal 1 (A ch)
5	PDB	I	Focus signal input terminal 2 (B ch)
6	LPD	I	Laser PD connection
7	LD	O	Laser power auto control output
8	RF	O	RF signal output
9	RFIN	I	RF signal input
10	CSBRT	I	Capacitor for detection connection
11	CEA	I	Capacitor connection for HPF amplifier
12	BDO	O	BDO output ("H" : drop out)
13	LDON	I	LD APC input ("H" : ON, "L" : OFF)
14	GND	—	Ground connection

Pin No.	Mark	I/O	Function
15	/RFDET	O	NRFDET output ("L" : detection)
16	CROSS	O	CROSS output (Track cross signal output)
17	OFTR	O	Off-track output("L" : ON track, "H" : OFF track)
18	VDET	O	VDET output("H" : Vibration detected)
19	ENV	O	RF envelope detection
20	ENVOFF	I	Not used, connected to power supply
21	TEBPF	I	Oscillation detect signal input
22	TEN	I	Tracking error signal input
23	TEOUT	O	Tracking error signal output
24	FEOUT	O	Focus error signal output
25	FEN	I	Focus error signal input
26	VREF	O	Reference voltage output
27	TBAL	I	Tracking balance signal input
28	FBAL	I	Focus balance signal input

• IC703 (AN8780NSBE2) Focus coil / Tracking coil / Traverse motor / Spindle motor driver

Pin No.	Mark	I/O	Function
1	/RST	—	Not used, open
2	NC	—	Not used
3	IN2	I	Motor driver (2) input
4	PC2	I	Turntable motor drive signal ("L" : ON)
5	NC	—	Not used
6	IN1	I	Motor driver (1) input
7	PVCC1	I	Power supply (1) for driver
8	PGND1	—	Ground connection (1) for driver
9	NC	—	Not used, connected to GND
10	D1-	O	Motor driver (1) reverse-action output
11	D1+	O	Motor driver (1) forward-action output
12	D2-	O	Motor driver (2) reverse-action output
13	D2+	O	Motor driver (2) forward-action output

Pin No.	Mark	I/O	Function
14	D3–	O	Motor driver (3) reverse-action output
15	D3+	O	Motor driver (3) forward-action output
16	D4–	O	Motor driver (4) reverse-action output
17	D4+	O	Motor driver (4) forward-action output
18	NC	—	Not used, open
19	PGND2P	—	Ground connection (2) for driver
20	PVCC2	I	Power supply (2) for driver
21	VCC	I	Power supply terminal
22	VREF	I	Reference voltage input
23	IN4	I	Motor driver (4) input
24	IN3	I	Motor driver (3) input
25	RSTIN	I	Reset terminal (Not used, connected to GND)
26	NC	—	Not used, connected to GND

• IC702 (MN662746RPK1) Servo processor / Digital signal processor / Digital filter / D/A converter

Pin No.	Mark	I/O	Function
1	BCLK	O	Serial bit clock terminal (Not used, open)
2	LRCK	O	L/R discriminating signal (Not used, open)
3	SRDATA	O	Serial data (Not used, open)
4	DVDD1	I	Power supply (digital circuit) terminal
5	DVSS1	—	GND (digital circuit) terminal
6	TX	O	Digital audio interface signal
7	MCLK	I	Microprocessor command clock signal
8	MDATA	I	Microprocessor command data signal
9	MLD	I	Microprocessor command load signal
10	SENSE	O	Sense signal output (OFT,FESL,MAGEND,NAJEND,POSAD,SFG)
11	/FLOCK	O	Optical servo condition(focus)("L" : lead-in)
12	/TLOCK	O	Optical servo condition(tracking)("L" : lead-in)
13	BLKCK	O	Sub-code block clock (f=75Hz)
14	SQCK	I	External clock signal input for sub-code Q register.
15	SUBQ	O	Sub-code Q code output
16	DMUTE	I	Muting input ("H" : mute)
17	STAT	O	Status signal output (CRC,CUE,CLVS,TTSTVP,FCLV,SQCK)
18	/RST	I	Reset input
19	SMCK	O	1/2-divided clock signal of crystal oscillating at MSEL = "H" (fSMCK=8.4672MHz) 1/4-divided clock signal of crystal oscillating at MSEL="L" (fSMCK=4.2336MHz)
20	PMCK	O	1/192-divided clock signal of crystal oscillating (fPMCK=88.2kHz) (Not used, open)
21	TRV	O	Traverse servo control output
22	TVD	O	Traverse drive signal output
23	PC	O	Spindle motor ON signal output ("L" : ON)
24	ECM	O	Spindle motor drive signal output (forced mode output)
25	ECS	O	Spindle motor drive signal output (servo error signal output)
26	KICK	O	Kick pulse output
27	TRD	O	Tracking drive output
28	FOD	O	Focus drive output
29	VREF	I	D/A (drive) output (TVD,ECS,TRD,FOD, FBAL,TBAL) Reference voltage input.
30	FBAL	O	Focus balance adjustment output (Not used,open)
31	TBAL	O	Tracking balance adjustment output
32	FE	I	Focus error signal input (analog input)
33	TE	I	Tracking error signal input (analog input)
34	RFENV	I	RF envelope signal input
35	VDET	I	Vibration detection signal input ("H" : detection)

Pin No.	Mark	I/O	Function
36	OFT	I	Off-track signal input ("H" : off track)
37	TRCRS	I	Track cross signal input
38	/RFDET	I	RF detection signal input ("L" : detection)
39	BDO	I	Dropout signal input ("H" : Dropout)
40	LDON	O	Laser on signal output ("H" : ON)
41	TES	O	Tracking error shunt signal output ("H" : shunt)
42	PLAY	O	Play signal out ("H" : PLAY)
43	WVEL	O	Double speed status signal output ("H" : DS)
44	ARF	I	RF signal input
45	IREF	I	Reference current input
46	DRF	I	DSL bias (Not used, open)
47	DSLF	I/O	DSL loop filter
48	PLLF	I/O	PLL loop filter
49	DSLF2	I/O	VCO loop filter (Not used, open)
50	AVDD2	I	Power supply input (for analog circuit)
51	AVSS2	—	GND (for analog circuit)
52	EFM	O	EFM signal output (Not used, open)
53	PCK	O	PLL extraction clock ouput (Not used, open) (fPCK=4.321 MHz during normal playback)
54	TOUT	O	Phase comparison signal of EFM and PCK signals (Not used, open)
55	SUBC	O	Sub-code serial data output (Not used, open)
56	SBCK	I	Sub-code frame clock signal output (fCLDCK=7.35kHz during normal playback)
57	VSS	—	GND
58	X1 IN	I	Crystal oscillating circuit input (f=16.9344MHz)
59	X2 OUT	O	Crystal oscillating circuit output (f=16.9344MHz)
60	VDD	I	Power supply input (for oscillating circuit)
61	BYTCK	O	Byte clock output (Not used, open)
62	/CLDCK	O	Clock input for sub-code serial data (Not used, open)
63	FCLK	O	Crystal frame clock signal output (fCLK=7.35kHz, double=14.7kHz)
64	PFLAG	O	Interpolation flag output ("H" : interpolation) (Not used, open)
65	FLAG	O	Flag output (Not used, open)
66	CLVS	O	Spindle servo phase synchronizing signal output ("H" : CLV, "L" : rough servo) (Not used, open)
67	CRC	O	Sub-code CRC checked output ("H" : OK, "L" : NG) (Not used, open)
68	RESY	O	Frame resynchronizing signal output (Not used, open)
69	FLAG	O	De-emphasis ON signal output ("H" : ON) (Not used, open)
70	ARST	I	Reset input through MASH circuit ("L" : Reset)
71	/TEST	I	Test input

Pin No.	Mark	I/O	Function
72	AVDD1	I	Power supply input (for analog circuit)
73	OUTL	O	Left channel audio signal output
74	AVSS1	—	GND
75	OUTR	O	Right channel audio signal output
76	RSEL	I	RF signal polarity assignment input
			(at "H" level, RSEL="H", at "L" level, RESL="L")
77	CSEL	I	Crystal oscillating frequency designation input

Pin No.	Mark	I/O	Function
			"L" : 16.9344MHz "H" : 33.8688MHz
78	PSEL	I	Test input (normally "L") (Not used, open)
79	MSEL	I	Output mode switching of SUBQ terminal
			("H" : Q code buffer mode)
80	SSEL	I	Output frequency switching for SMCK terminal
			"H" : SMCK=8.4672MHz
			"L" : MCK=4.2336MHz (Not used, open)

• IC600 (M38198MCA824) System Microprocessor

Pin No.	Mark	I/O	Function
1	CRT	I/O	CRT timer
2	TPS	I	TPS signal input
3	DECK1	I	Deck 1 mechanism condition input
4	DECK 2	I	Deck 2 mechanism condition input
5	KEY 4	I	Key 4 input
6	KEY 3	I	Key 3 input
7	KEY 2	I	Key 2 input
8	KEY 1	I	Key 1 input
9	SER 1	O	Serial clock output for IC903 and IC904
10	VBASS	O	VBass level control signal output
11	SER 2	O	Serial data/clock output for IC301 and IC903
12	SER 3	O	Serial data output for IC301 and IC904
13	SER 4	O	Serial clock output (Not used, open)
14	SPE	I	Spectrum analyser input
15	CHG_PLGR	O	Changer plunger output
16	CHG_SW1	I	Changer SW detection input 1
17	CHG_SW2	I	Changer SW detection input 2
18	CDRST	O	Reset signal output for CD circuit
19	STATUS	I	Reset signal input for CD circuit
20	SQCK	O	CD subcode clock output
21	SD	I	Tuner signal detect input
22	SUBQ	I	CD subcode data input
23	CHG_CW	O	Changer motor CW output
24	CHG_CCW	O	Changer motor CCW output
25	CHG_HALF	O	Changer half drive output
26	MLD/	O	CD command load output and
	PLLCE		tuner chip enable output
27	MDATA/	O	CD command data output /
	PLLDA		Tuner PLL data output
28	MCLK/	O	CD command clock output and
	PLLCK		tuner PLL clock output
29	RESTSW	I	CD REST detect SW input

Pin No.	Mark	I/O	Function
30	BLKCK	I	CD block clock input
31	RMT	I	Remote control signal input
32	DCDET	I	DC detect input
33	ECONO	O	Main transformer control output for economy
			mode
34	SYNC	I	AC power source detect signal input
35	/RESET	I	RESET input
36	XCIN	I	X'tal oscillator (f = 32.768 kHz sub clock)
37	XCOUT	O	X'tal oscillator (f = 32.768 kHz sub clock)
38	XIN	I	X'tal oscillator (f = 8.0 MHz Main clock)
39	XOUT	O	X'tal oscillator (f = 8.0 MHz Main clock)
40	VSS	—	Ground (0V)
41	MBP1	O	MPU beat proof output 1
42	MBP2	O	MPU beat proof output 2
43	J_JOGA	I	AI Equalizer control signal input
44	J_JOGB	I	AI Equalizer control signal input
45	MKCLK	O	Deck control clock output
46	SP_A	O	Space control A
47	SP_B	O	Space control B
48	SP_C	O	Space control C
49-54	GRD8-GRD13	O	LCD grid signal output
55-61	GRD1-GRD7	O	LCD grid signal output
62-90	SEG32-SEG4	O	LCD segment signal output
91	VCC	I	Power supply (+5V)
92-94	REG3-REG1	O	LCD segment signal output
95	REG_IN	I	Region select signal input
96	V_JOGA	I	Main volume jog input A
97	V_JOGB	I	Main volume jog input B
98	VEE	—	Power supply (-30V)
99	AVSS	—	Analog ground (0V)
100	VREF	I	Reference voltage input

■ Schematic Diagram

(All schematic diagrams may be modified at any time with the development of new technology)

Note :

< for Servo Circuit >

• **S701**	Reset switch

< for Panel circuit and Operation Circuit >

• **S602**	AUX select switch
• **S603**	Reverse play, Tune/time adjust down switch
• **S604**	DISC 5 eject switch
• **S605**	Tuner select switch
• **S606**	FWD play/pause, tune/time adjust up switch
• **S607**	DISC 4 eject switch
• **S608**	CD select switch
• **S609**	Stop, tune mode select switch
• **S610**	DISC 3 eject switch
• **S611**	Tape/deck select switch
• **S612**	FWD, memory/set switch
• **S613**	DISC 2 eject switch
• **S614**	Clock, timer select switch
• **S615**	Economy mode switch
• **S616**	REW, FM mode/BP select switch
• **S617**	DISC 1 eject switch
• **S618**	Play timer/REC timer select switch
• **S619**	Random play switch
• **S620**	Deck 1 open switch
• **S621**	EQ adjust down switch
• **S622**	Display, demonstration select switch
• **S623**	CD manager switch
• **S624**	Tape Edit switch
• **S625**	EQ adjust left switch
• **S626**	V. BASS switch
• **S627**	DISC 5 select switch
• **S628**	EQ adjust up switch
• **S629**	Record select switch
• **S630**	DISC 4 select switch
• **S631**	EQ adjust right switch
• **S632**	Reverse mode select switch
• **S633**	DISC 3 select switch
• **S634**	Deck 2 open switch
• **S635**	DISC 2 select switch
• **S636**	DISC 1 select switch
• **S638**	Power switch
• **S639**	3D AI EQ switch
• **VR600**	Volume control

< for Mechanism (Deck 1) circuit and Mechanism (Deck 2) circuit >

• **S951**	Deck 1 Mode detect switch.
• **S952**	Deck 1 Tape detect switch.
• **S953**	Deck 1 CrO_2 detect switch.
• **S971**	Deck 2 Mode detect switch.
• **S972**	Deck 2 Tape detect switch.
• **S973**	Deck 2 CrO_2 detect switch.
• **S974**	Deck 2 Record detect switch.
• **S975**	Deck 2 Record detect switch.

< for Loading Motor circuit, Detecting Switch (1) Circuit and Detecting Switch (2) Circuit >

• **SW1, SW2**	Tray position switch
• **SW3**	Tray open switch
• **SW4**	CD offset detect switch
• **SW5**	Spindle bottom position detect switch

•Signal line

━━━ : +B line
╍╍╍ : –B line
➡ : FM/AM signal line
▨⇨ : Main signal line
▨⇨ : Playback signal line
▥⇨ : Record signal line
░⇨ : CD signal line
⇨ : FM signal line
➡ : AM signal line
▮➡ : AM OSC signal line
▯▯▯⇨ : FM OSC signal line
▥⇨ : AUX signal line

•The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis. Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

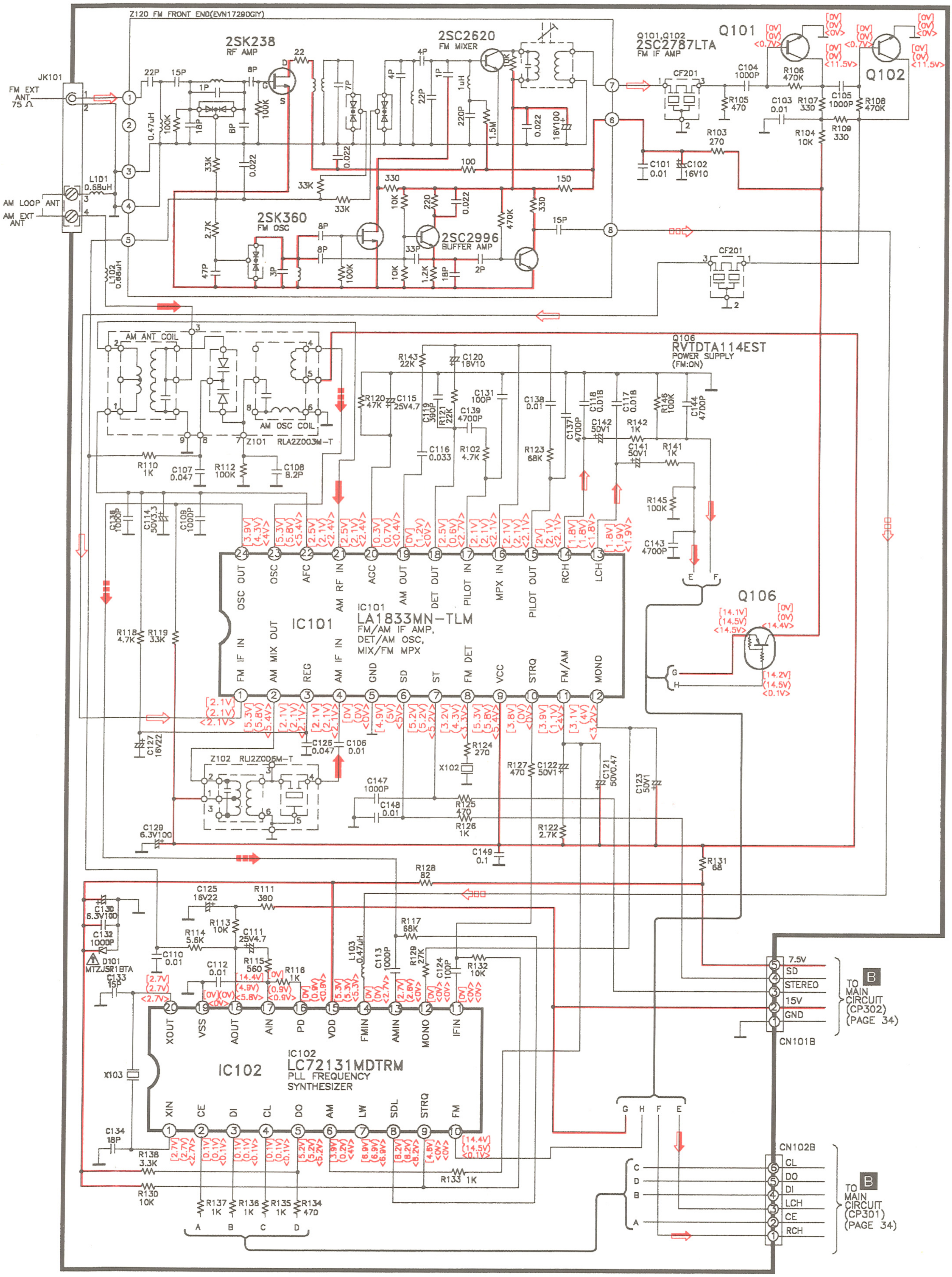
No mark : Playback   << >>......Rec   [ ] : AUX   (( )) : CD   < > ..... FM   ( ) .... AM

•Importance safety notice:
Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

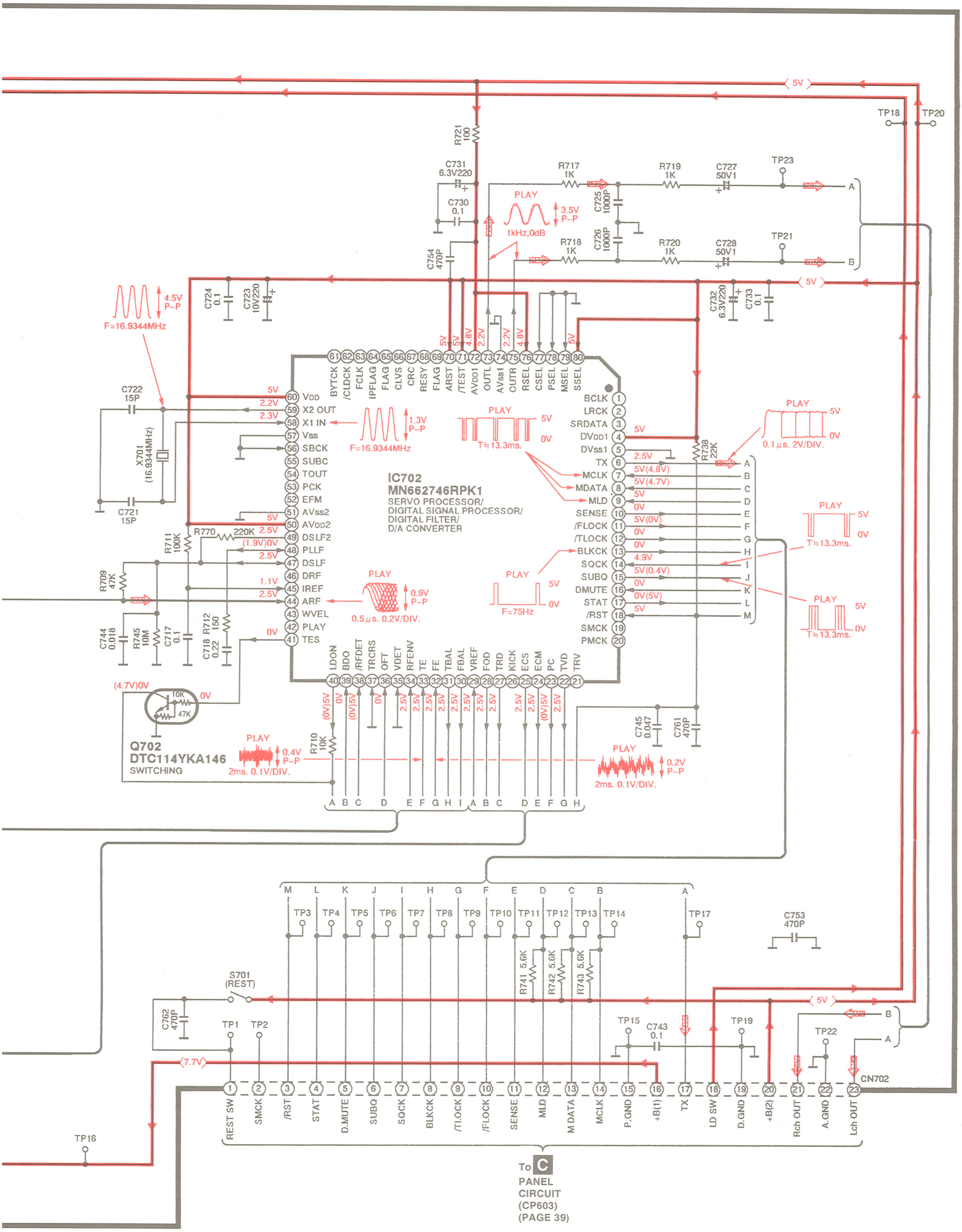
Caution !
IC, LSI and VLSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
•Cover the parts boxes made of plastics with aluminium foil.
•Put a conductive mat on the work table.
•Ground the soldering iron.
•Do not touch the pins of IC, LSI or VLSI with fingers directly.

J TUNER CIRCUIT
(P.C.Board on page 45)

—— : +B Line
⇨ : FM/AM Signal Line
⇨ : FM Signal Line
▭▭⇨ : FM OSC Signal Line
➡ : AM Signal Line
▮▮➡ : AM OSC Siganl Line

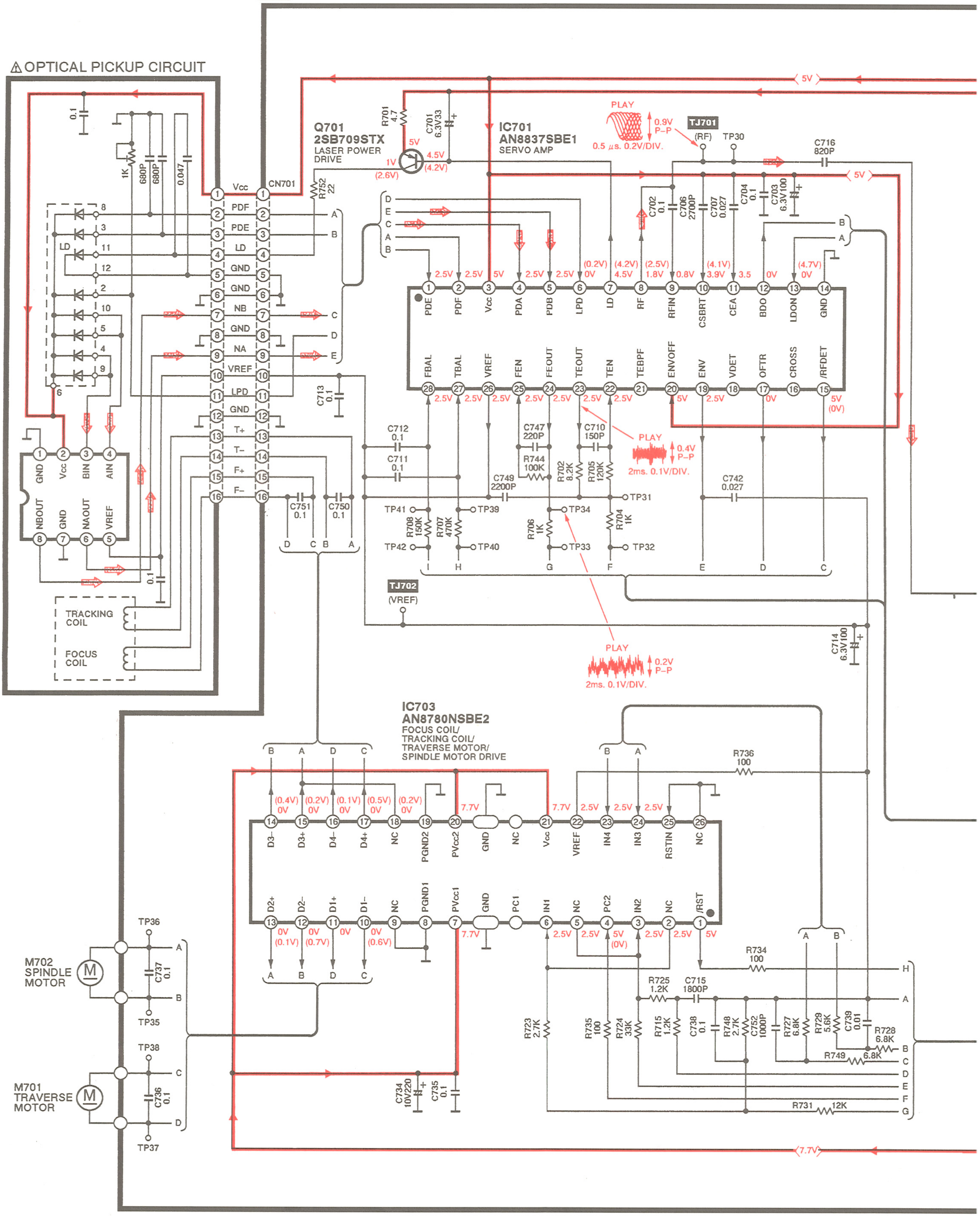

Z120 FM FRONT END(EVN17290GIY)
JK101
FM EXT ANT 75 Ω
AM LOOP ANT
AM EXT ANT
2SK238 RF AMP
2SC2620 FM MIXER
2SK360 FM OSC
2SC2996 BUFFER AMP
Q101,Q102 2SC2787LTA FM IF AMP
Q101
Q102
CF201
C104 1000P
R106 470K
R105 470
C103 0.01
R107 330
C105 1000P
R108 470K
R103 270
R104 10K
R109 330
C101 0.01
C102 16V10
L101 0.68uH
L102 0.68uH
AM ANT COIL
AM OSC COIL
Z101 RLA2Z003M-T
R110 1K
C107 0.047
R112 100K
C108 8.2P
Q106 RVTDTA114EST POWER SUPPLY (FM:ON)
R143 22K
C120 16V10
R120 47K
C115 25V4.7
C119 390P
R121 22K
C131 100P
C139 4700P
C138 0.01
C137 4700P
C118 0.018
C117 0.018
R146 100K
C144 4700P
C142 50V1
R142 1K
C141 50V1
R141 1K
C116 0.033
R102 4.7K
R123 68K
R145 100K
C143 4700P
C136 1000P
C114 50V3.3
C109 1000P
IC101 LA1833MN-TLM FM/AM IF AMP, DET/AM OSC, MIX/FM MPX
OSC OUT
OSC
AFC
AM RF IN
AGC
AM OUT
DET OUT
PILOT IN
MPX IN
PILOT OUT
RCH
LCH
FM IF IN
AM MIX OUT
REG
AM IF IN
GND
SD
ST
FM DET
VCC
STRQ
FM/AM
MONO
Q106
R118 4.7K
R119 33K
C127 16V22
Z102 RLI2Z005M-T
C125 0.047
C106 0.01
R124 270
X102
C147 1000P
C148 0.01
R125 470
R126 1K
R127 470
C122 50V1
C121 50V0.47
C123 50V1
R122 2.7K
C129 6.3V100
C149 0.1
R131 68
R128 82
C125 16V22
R111 390
C130 6.3V100
C132 1000P
D101 MTZJ5R1BTA
C133 15P
R113 10K
R114 5.6K
C111 25V4.7
C110 0.01
C112 0.01
R115 560
R116 1K
L103 0.47uH
C113 1000P
R117 68K
R129 27K
C124 100P
R132 10K
IC102 LC72131MDTRM PLL FREQUENCY SYNTHESIZER
XOUT
VSS
AOUT
AIN
PD
VDD
FMIN
AMIN
MONO
IFIN
XIN
CE
DI
CL
DO
AM
LW
SDL
STRQ
FM
X103
C134 18P
R138 3.3K
R130 10K
R133 1K
R137 1K
R136 1K
R135 1K
R134 470
7.5V
SD
STEREO
15V
GND
CN101B
TO B MAIN CIRCUIT (CP302) (PAGE 34)
CN102B
CL
DO
DI
LCH
CE
RCH
TO B MAIN CIRCUIT (CP301) (PAGE 34)

— : +B line ⇨ : CD signal line


IC702
MN662746RPK1
SERVO PROCESSOR/
DIGITAL SIGNAL PROCESSOR/
DIGITAL FILTER/
D/A CONVERTER
1 BCLK
2 LRCK
3 SRDATA
4 DVDD1
5 DVss1
6 TX
7 MCLK
8 MDATA
9 MLD
10 SENSE
11 /FLOCK
12 /TLOCK
13 BLKCK
14 SQCK
15 SUBQ
16 DMUTE
17 STAT
18 /RST
19 SMCK
20 PMCK
21 TRV
22 TVD
23 PC
24 ECM
25 ECS
26 KICK
27 TRD
28 FOD
29 VREF
30 FBAL
31 TBAL
32 FE
33 TE
34 RFENV
35 VDET
36 OFT
37 TRCRS
38 /RFDET
39 BDO
40 LDON
41 TES
42 PLAY
43 WVEL
44 ARF
45 IREF
46 DRF
47 DSLF
48 PLLF
49 DSLF2
50 AVDD2
51 AVss2
52 EFM
53 PCK
54 TOUT
55 SUBC
56 SBCK
57 Vss
58 X1 IN
59 X2 OUT
60 VDD
61 BYTCK
62 /CLDCK
63 FCLK
64 IPFLAG
65 FLAG
66 CLVS
67 CRC
68 RESY
69 FLAG
70 ARST
71 /TEST
72 AVDD1
73 OUTL
74 AVss1
75 OUTR
76 RSEL
77 CSEL
78 PSEL
79 MSEL
80 SSEL
5V
R721 100
C731 6.3V220
C730 0.1
C754 470P
PLAY
1kHz,0dB
3.5V P–P
R717 1K
R718 1K
C725 1000P
C726 1000P
R719 1K
R720 1K
C727 50V1
C728 50V1
TP23
TP21
TP18
TP20
A
B
C724 0.1
C723 10V220
C732 6.3V220
C733 0.1
4.5V P–P
F=16.9344MHz
C722 15P
C721 15P
X701 (16.9344MHz)
2.2V
2.3V
1.3V P–P
F=16.9344MHz
T≒13.3ms.
0V
2.5V
5V(4.8V)
5V(4.7V)
5V(0V)
4.9V
5V(0.4V)
0V(5V)
R738 22K
0.1µs. 2V/DIV.
R711 100K
R770
220K
(1.9V)0V
R709 47K
1.1V
0.9V P–P
0.5µs. 0.2V/DIV.
F=75Hz
C744 0.018
R745 10M
C717 0.1
R712 150
C718 0.22
(4.7V)0V
10K
47K
Q702
DTC114YKA146
SWITCHING
0.4V P–P
2ms. 0.1V/DIV.
R710 10K
(0V)5V
C745 0.047
C761 470P
0.2V P–P
2ms. 0.1V/DIV.
4.8V
A B C D E F G H I J K L M
TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP10 TP11 TP12 TP13 TP14 TP17
C753 470P
R741 5.6K
R742 5.6K
R743 5.6K
S701 (REST)
C762 470P
TP1 TP2
TP15
C743 0.1
TP19
TP22
(7.7V)
CN702
1 REST SW
2 SMCK
3 /RST
4 STAT
5 D.MUTE
6 SUBQ
7 SQCK
8 BLKCK
9 /TLOCK
10 /FLOCK
11 SENSE
12 MLD
13 M DATA
14 MCLK
15 P.GND
16 +B(1)
17 TX
18 LD SW
19 D.GND
20 +B(2)
21 Rch OUT
22 A.GND
23 Lch OUT
TP16
To C PANEL CIRCUIT (CP603) (PAGE 39)

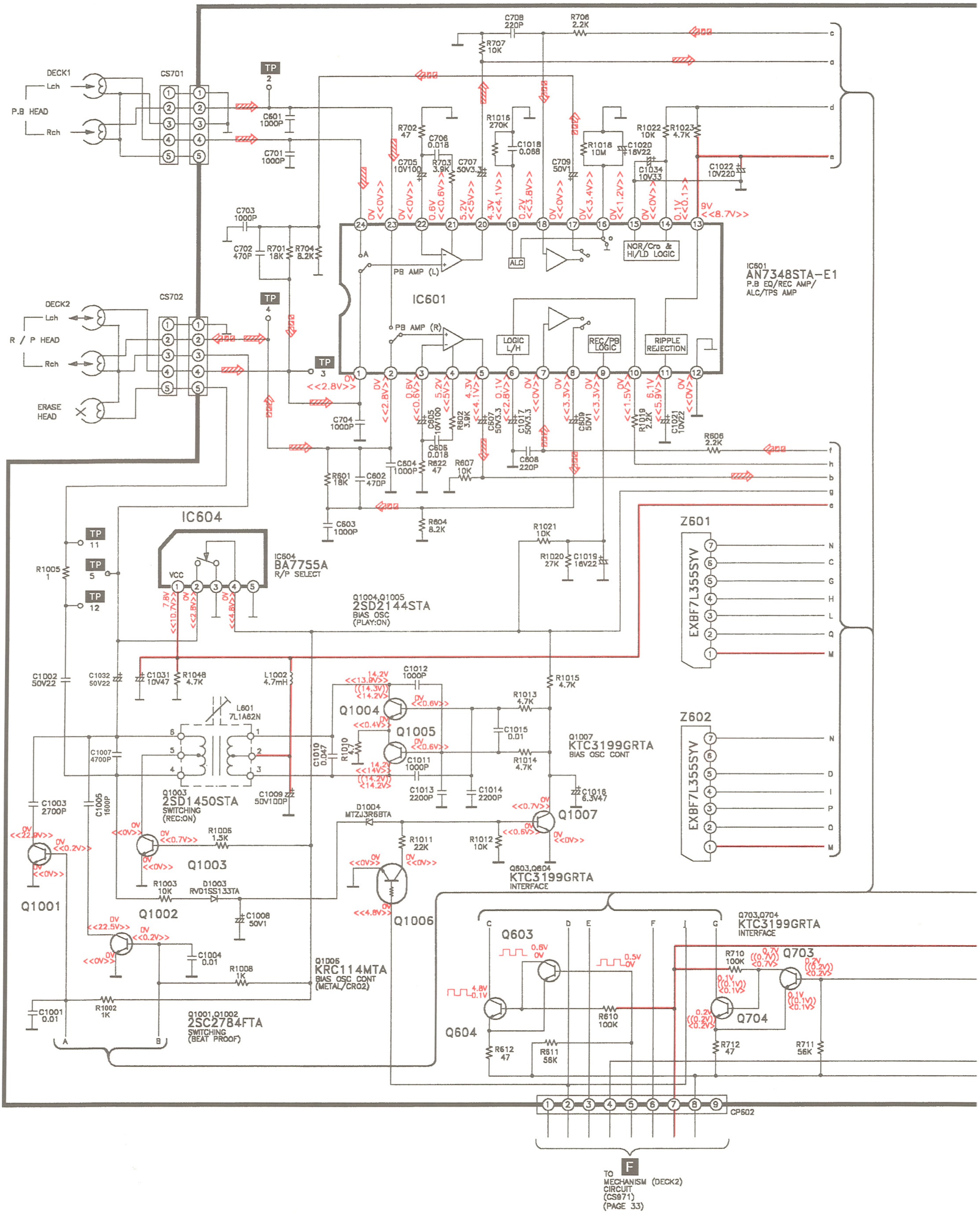
— : +B line ⇨ : CD signal line

A CD SERVO CIRCUIT (P.C.Board on page 43)

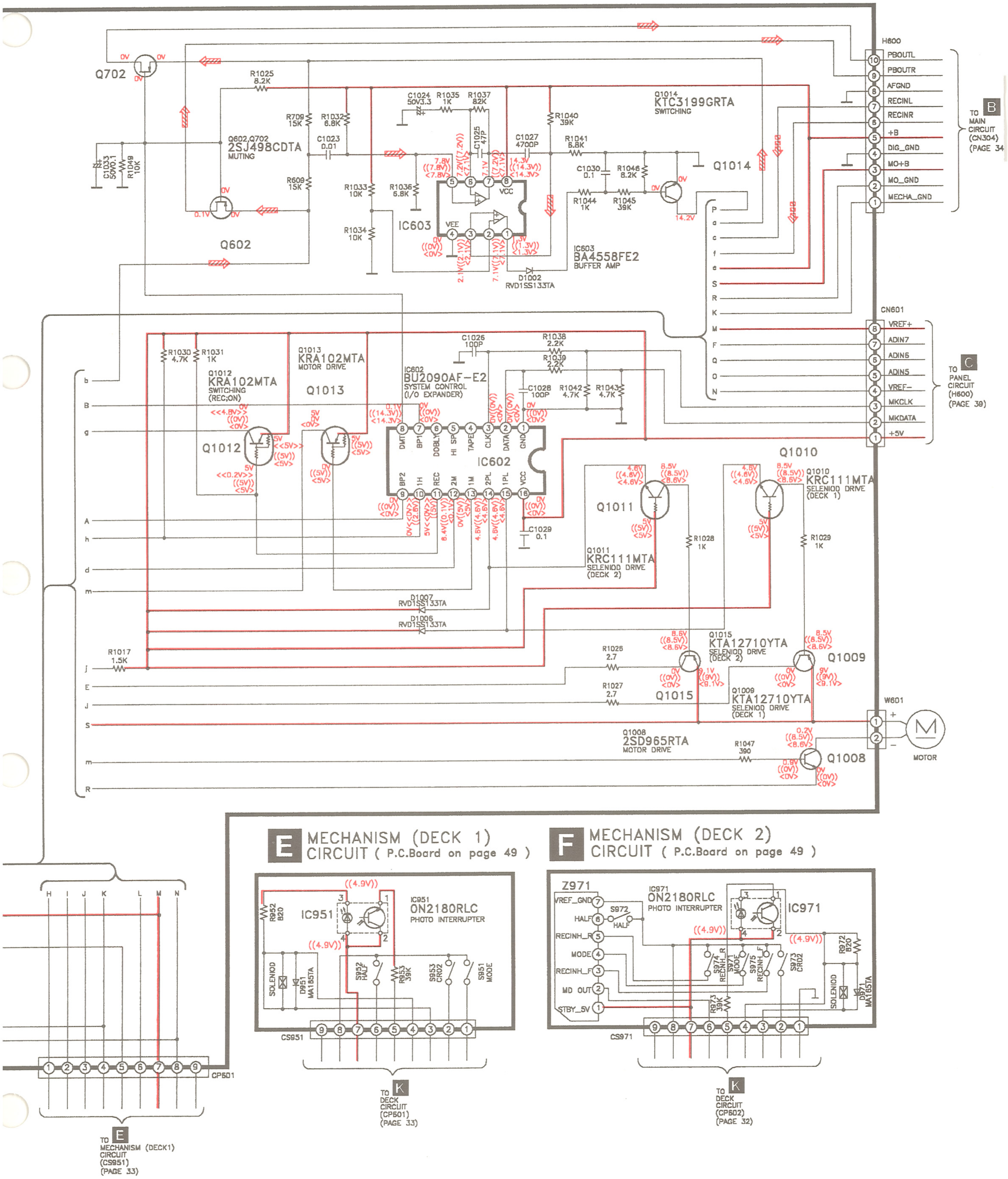

⚠ OPTICAL PICKUP CIRCUIT
Q701
2SB709STX
LASER POWER
DRIVE
R701
4.7
C701
6.3V33
IC701
AN8837SBE1
SERVO AMP
PLAY
0.9V
P–P
0.5 µs. 0.2V/DIV.
TJ701
(RF)
TP30
C716
820P
5V
CN701
R752
22
Vcc
PDF
PDE
LD
GND
NB
NA
VREF
LPD
T+
T–
F+
F–
1K
680P
680P
0.047
0.1
LD
GND
Vcc
BIN
AIN
NBOUT
NAOUT
VREF
C702
0.1
C706
2700P
C707
0.027
C704
0.1
C703
6.3V100
PDE
PDF
Vcc
PDA
PDB
LPD
LD
RF
RFIN
CSBRT
CEA
BDO
LDON
GND
FBAL
TBAL
VREF
FEN
FEOUT
TEOUT
TEN
TEBPF
ENVOFF
ENV
VDET
OFTR
CROSS
/RFDET
C713
0.1
C712
0.1
C711
0.1
C747
220P
R744
100K
C710
150P
R702
8.2K
R705
120K
C749
2200P
PLAY
0.4V
P–P
2ms. 0.1V/DIV.
C742
0.027
TP31
TP41
TP39
TP34
R708
150K
R707
470K
R706
1K
R704
1K
TP42
TP40
TP33
TP32
C751
0.1
C750
0.1
TJ702
(VREF)
TRACKING
COIL
FOCUS
COIL
C714
6.3V100
PLAY
0.2V
P–P
2ms. 0.1V/DIV.
IC703
AN8780NSBE2
FOCUS COIL/
TRACKING COIL/
TRAVERSE MOTOR/
SPINDLE MOTOR DRIVE
R736
100
D3–
D3+
D4–
D4+
NC
PGND2
PVcc2
GND
NC
Vcc
VREF
IN4
IN3
RSTIN
NC
D2+
D2–
D1+
D1–
NC
PGND1
PVcc1
GND
PC1
IN1
NC
PC2
IN2
NC
/RST
7.7V
TP36
M702
SPINDLE
MOTOR
C737
0.1
TP35
TP38
M701
TRAVERSE
MOTOR
C736
0.1
TP37
C734
10V220
C735
0.1
R734
100
R725
1.2K
C715
1800P
R723
2.7K
R735
100
R724
33K
R715
1.2K
C738
0.1
R748
2.7K
C752
1000P
R727
6.8K
R729
5.6K
C739
0.01
R728
6.8K
R749
6.8K
R731
12K
7.7V

—— : +B Line ▨ : Playback Signal Line ▨ : Record Signal Line

K DECK CIRCUIT (P.C.Board on page 50)

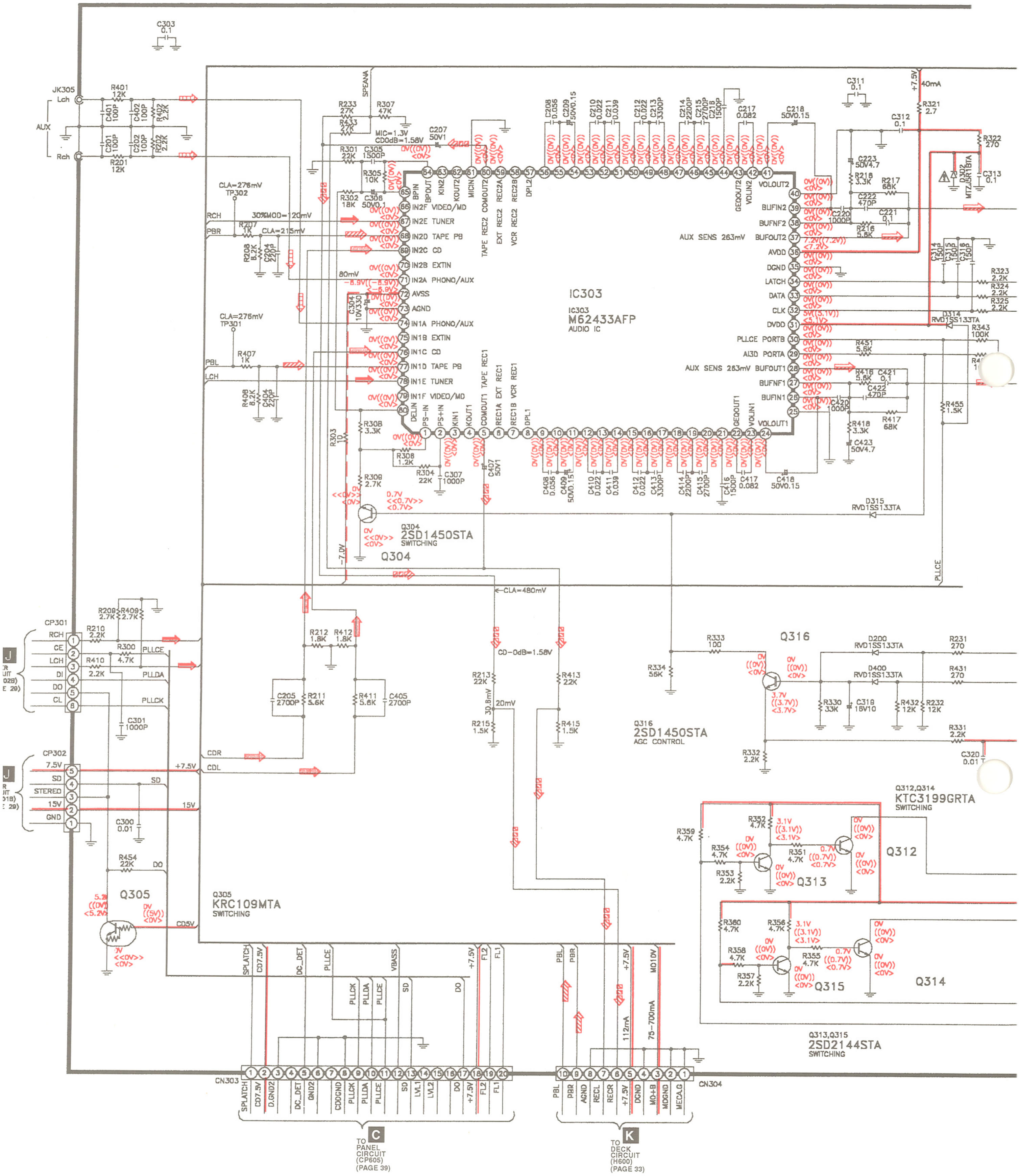

DECK1
Lch
P.B HEAD
Rch
CS701
TP 2
C601 1000P
C701 1000P
C703 1000P
C702 470P
R701 18K
R704 8.2K
C708 220P
R706 2.2K
R707 10K
R702 47
C706 0.018
C705 10V100
R703 3.9K
C707 50V3.3
R1016 270K
C1018 0.068
C709 50V1
R1018 10M
C1020 16V22
C1034 10V33
R1022 10K
R1023 4.7K
C1022 10V220
9V
<<8.7V>>
IC601 AN7348STA-E1
P.B EQ/REC AMP/ ALC/TPS AMP
PB AMP (L)
PB AMP (R)
ALC
NOR/Cro & HI/LD LOGIC
LOGIC L/H
REC/PB LOGIC
RIPPLE REJECTION
IC601
DECK2
R / P HEAD
ERASE HEAD
CS702
TP 4
TP 3
<<2.8V>>
C704 1000P
C605 10V100
R602 3.9K
C607 50V3.3
C1017 50V3.3
C609 50V1
R1019 2.2K
C1021 10V22
R606 2.2K
C606 0.018
C604 1000P
R622 47
R607 10K
C608 220P
R601 18K
C602 470P
C603 1000P
R604 8.2K
R1021 10K
R1020 27K
C1019 16V22
IC604
IC604 BA7755A R/P SELECT
VCC
TP 11
TP 5
TP 12
R1005 1
Z601
EXBF7L355SYV
Z602
EXBF7L355SYV
Q1004,Q1005 2SD2144STA BIAS OSC (PLAY:ON)
C1002 50V22
C1032 50V22
C1031 10V47
R1048 4.7K
L1002 4.7mH
L601 7L1A62N
C1007 4700P
C1005 1500P
C1003 2700P
Q1003 2SD1450STA SWITCHING (REC:ON)
C1009 50V100P
C1012 1000P
Q1004
Q1005
C1010 0.047
R1010 4.7
C1011 1000P
C1013 2200P
C1014 2200P
R1013 4.7K
R1014 4.7K
C1015 0.01
R1015 4.7K
Q1007 KTC3199GRTA BIAS OSC CONT
C1016 6.3V47
Q1007
D1004 MTZJ3R6BTA
R1011 22K
R1012 10K
Q603,Q604 KTC3199GRTA INTERFACE
Q1001
R1006 1.5K
Q1003
R1003 10K
D1003 RVD1SS133TA
C1008 50V1
Q1002
Q1006
C1004 0.01
R1008 1K
Q1006 KRC114MTA BIAS OSC CONT (METAL/CRO2)
C1001 0.01
R1002 1K
Q1001,Q1002 2SC2784FTA SWITCHING (BEAT PROOF)
Q603
Q604
R612 47
R611 56K
R610 100K
Q703,Q704 KTC3199GRTA INTERFACE
R710 100K
Q703
Q704
R712 47
R711 56K
CP502
TO MECHANISM (DECK2) CIRCUIT (CS971) (PAGE 33)
F

―― : +B Line　▨ : Playback Signal Line　▨ : Record Signal Line


Q702
R1025 8.2K
R709 15K
R1032 6.8K
R609 15K
Q602,Q702 2SJ498CDTA MUTING
C1033 50V0.1
R1049 10K
Q602
C1024 50V3.3
R1035 1K
R1037 82K
C1023 0.01
C1025 47P
C1027 4700P
R1040 39K
R1041 6.8K
R1033 10K
R1036 6.8K
R1034 10K
IC603
VEE
VCC
IC603 BA4558FE2 BUFFER AMP
D1002 RVD1SS133TA
Q1014 KTC3199GRTA SWITCHING
Q1014
C1030 0.1
R1046 8.2K
R1044 1K
R1045 39K
14.2V
H600
PBOUTL
PBOUTR
AFGND
RECINL
RECINR
+B
DIG_GND
MO+B
MO_GND
MECHA_GND
TO MAIN CIRCUIT (CN304) (PAGE 34)
B
CN601
VREF+
ADIN7
ADIN6
ADIN5
VREF−
MKCLK
MKDATA
+5V
TO PANEL CIRCUIT (H600) (PAGE 39)
C
R1030 4.7K
R1031 1K
Q1012 KRA102MTA SWITCHING (REC;ON)
Q1013 KRA102MTA MOTOR DRIVE
Q1013
Q1012
C1026 100P
R1038 2.2K
R1039 2.2K
IC602 BU2090AF-E2 SYSTEM CONTROL (I/O EXPANDER)
C1028 100P
R1042 4.7K
R1043 4.7K
DMT BP1 DOBLY HI SP TAPE CLK DATA GND
IC602
BP2 1H REC 2M 1M 2PL 1PL VCC
C1029 0.1
Q1010
Q1010 KRC111MTA SELENOID DRIVE (DECK 1)
Q1011
Q1011 KRC111MTA SELENOID DRIVE (DECK 2)
R1028 1K
R1029 1K
D1007 RVD1SS133TA
D1006 RVD1SS133TA
R1017 1.5K
R1026 2.7
R1027 2.7
Q1015 KTA1271OYTA SELENOID DRIVE (DECK 2)
Q1015
Q1009
Q1009 KTA1271OYTA SELENOID DRIVE (DECK 1)
W601
MOTOR
Q1008 2SD965RTA MOTOR DRIVE
R1047 390
Q1008
E MECHANISM (DECK 1) CIRCUIT (P.C.Board on page 49)
F MECHANISM (DECK 2) CIRCUIT (P.C.Board on page 49)
R952 820
IC951
IC951 ON2180RLC PHOTO INTERRUPTER
SOLENOID
D951 MA165TA
S952 HALF
R953 39K
S953 CR02
S951 MODE
CS951
Z971
VREF_GND
HALF
RECINH_R
MODE
RECINH_F
MD OUT
STBY_5V
S972 HALF
IC971 ON2180RLC PHOTO INTERRUPTER
IC971
S974 RECINH_R
S976 MODE
S975 RECINH_F
S973 CR02
R972 820
R973 39K
SOLENOID
D971 MA165TA
CS971
CP601
TO DECK CIRCUIT (CP601) (PAGE 33)
K
TO DECK CIRCUIT (CP602) (PAGE 32)
K
TO MECHANISM (DECK1) CIRCUIT (CS951) (PAGE 33)
E

—— : +B Line
– – – : −B Line
⇨ : Main Signal Line
⇨ : AUX Signal Line
⇨ : Playback Signal Line
⇨ : CD Signal Line
⇨ : FM/AM Signal Line
⇨ : Record Signal Line

B MAIN CIRCUIT (P.C.Board on page 44)



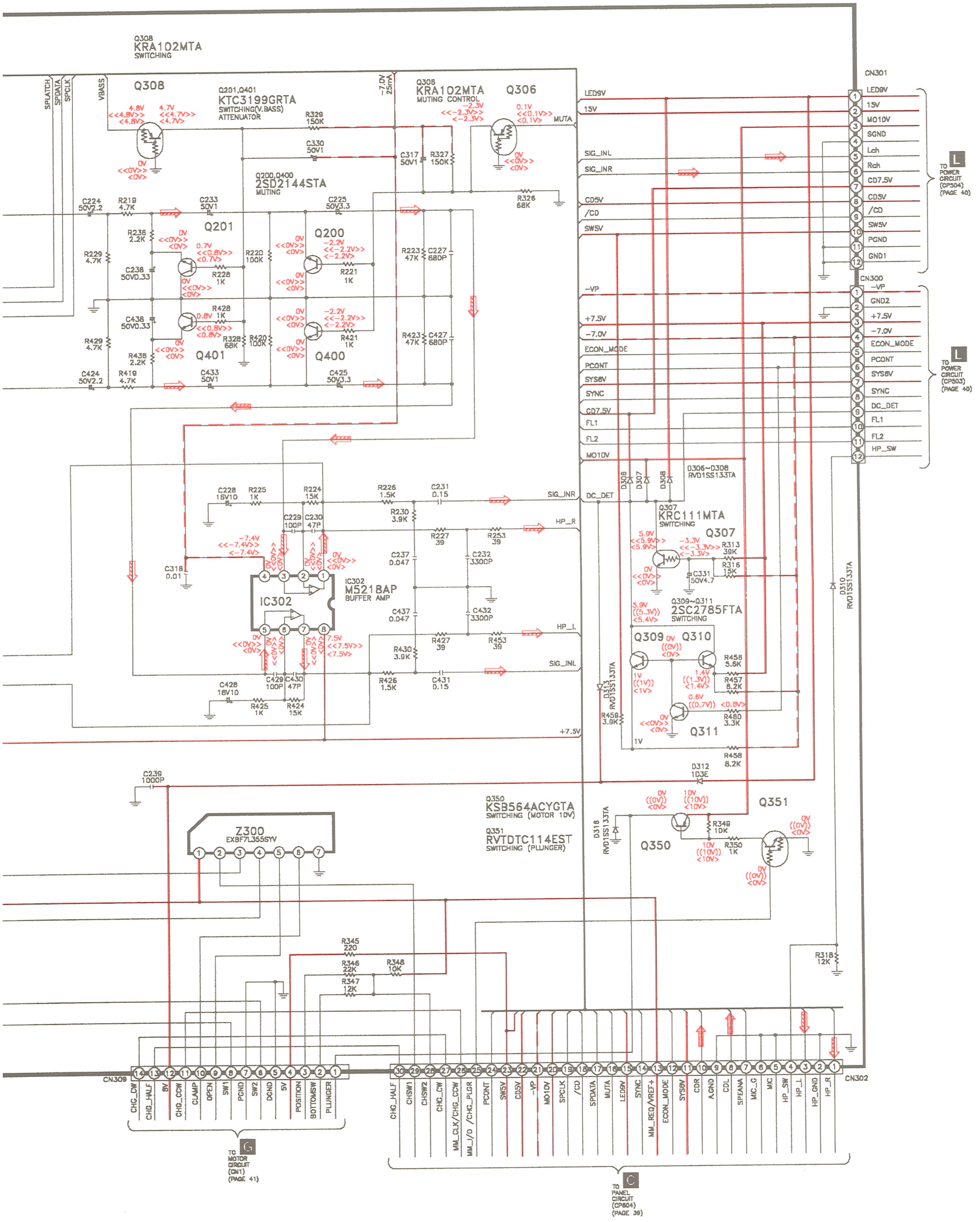
JK305
AUX
Lch
Rch
R401 12K
R201 12K
C401 100P
C402 100P
R402 2.2K
C201 100P
C202 100P
R202 2.2K
C303 0.1
CLA=276mV TP302
CLA=276mV TP301
30%MOD=120mV
CLA=215mV
RCH
PBR
PBL
LCH
R207 1K
R208 8.2K
C204 220P
R407 1K
R408 8.2K
C404 220P
R233 27K
R433 27K
R307 47K
SPEANA
MIC=1.3V
CD0dB=1.58V
C207 50V1
R301 22K
C305 1500P
R305 10K
R302 18K
C306 50V0.1
C304 10V330
80mV
IC303
M62433AFP
AUDIO IC
IN2F VIDEO/MD
IN2E TUNER
IN2D TAPE PB
IN2C CD
IN2B EXTIN
IN2A PHONO/AUX
AVSS
AGND
IN1A PHONO/AUX
IN1B EXTIN
IN1C CD
IN1D TAPE PB
IN1E TUNER
IN1F VIDEO/MD
DELIN
PS−IN
PS+IN
KIN1
KOUT1
COMOUT1 TAPE REC1
REC1A EXT REC1
REC1B VCR REC1
DPL1
BPIN
BPOUT
KIN2
KOUT2
MICIN
COMOUT2 TAPE REC2
REC2A EXT REC2
REC2B VCR REC2
DPL2
GEQOUT2
VOLIN2
VOLOUT2
BUFIN2
BUFNF2
BUFOUT2
AVDD
DGND
LATCH
DATA
CLK
DVDD
PLLCE PORTB
AI3D PORTA
BUFOUT1
BUFNF1
BUFIN1
GEQOUT1
VOLIN1
VOLOUT1
AUX SENS 263mV
C208 0.056
C209 50V0.15
C210 0.022
C211 0.039
C212 0.022
C213 3300P
C214 2200P
C215 2700P
C216 1500P
C217 0.082
C218 50V0.15
C311 0.1
+7.5V
40mA
R321 2.7
C312 0.1
R322 270
C223 50V4.7
R218 3.3K
R217 68K
C222 470P
C220 1000P
C221 0.1
R216 5.6K
D302 MTZJ5R1BTA
C313 0.1
C314 150P
C315 150P
C318 150P
R323 2.2K
R324 2.2K
R325 2.2K
D314 RVD1SS133TA
R343 100K
R451 5.6K
R416 5.6K
C421 0.1
C422 470P
C420 1000P
R418 3.3K
R417 68K
C423 50V4.7
R455 1.5K
C408 0.056
C409 50V0.15
C410 0.022
C411 0.039
C412 0.022
C413 3300P
C414 2200P
C415 2700P
C416 1500P
C417 0.082
C418 50V0.15
D315 RVD1SS133TA
R303 10
R308 3.3K
R306 1.2K
R304 22K
C307 1000P
C407 50V1
R309 2.7K
Q304
2SD1450STA
SWITCHING
−7.0V
PLLCE
CLA=480mV
CD−0dB=1.58V
R213 22K
R413 22K
30.8mV
20mV
R215 1.5K
R415 1.5K
R212 1.8K
R412 1.8K
C205 2700P
R211 5.6K
R411 5.6K
C405 2700P
CDR
CDL
R209 2.7K
R409 2.7K
R210 2.2K
R300 4.7K
R410 2.2K
CP301
RCH
CE
LCH
DI
DO
CL
PLLCE
PLLDA
PLLCK
C301 1000P
CP302
7.5V
SD
STEREO
15V
GND
+7.5V
C300 0.01
R454 22K
DO
Q305
KRC109MTA
SWITCHING
CD5V
Q316
R333 100
R334 56K
Q316
2SD1450STA
AGC CONTROL
D200 RVD1SS133TA
D400 RVD1SS133TA
R231 270
R431 270
R330 33K
C319 16V10
R432 12K
R232 12K
R331 2.2K
R332 2.2K
C320 0.01
Q312,Q314
KTC3199GRTA
SWITCHING
R359 4.7K
R352 4.7K
R354 4.7K
R351 4.7K
R353 2.2K
Q312
Q313
R360 4.7K
R356 4.7K
R358 4.7K
R355 4.7K
R357 2.2K
Q315
Q314
Q313,Q315
2SD2144STA
SWITCHING
112mA
75−700mA
CN303
SPLATCH
CD7.5V
D.GND2
DC_DET
GND2
CDDGND
PLLCK
PLLDA
PLLCE
SD
LVL1
LVL2
DO
+7.5V
FL2
FL1
VBASS
CN304
PBL
PBR
AGND
RECL
RECR
+7.5V
DGND
MO+B
MOGND
MECA.G
MO10V
TO PANEL CIRCUIT (CP605) (PAGE 39)
TO DECK CIRCUIT (H600) (PAGE 33)

— : +B Line

- - - : −B Line

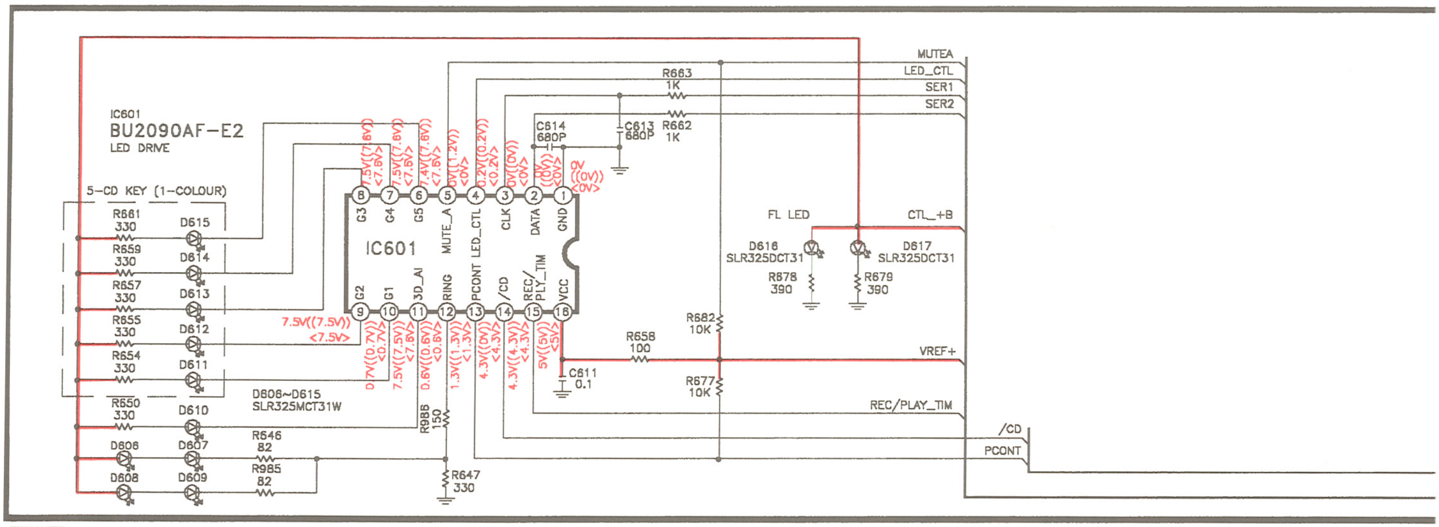
⇨ : Main Signal Line

⇨ : CD Signal Line

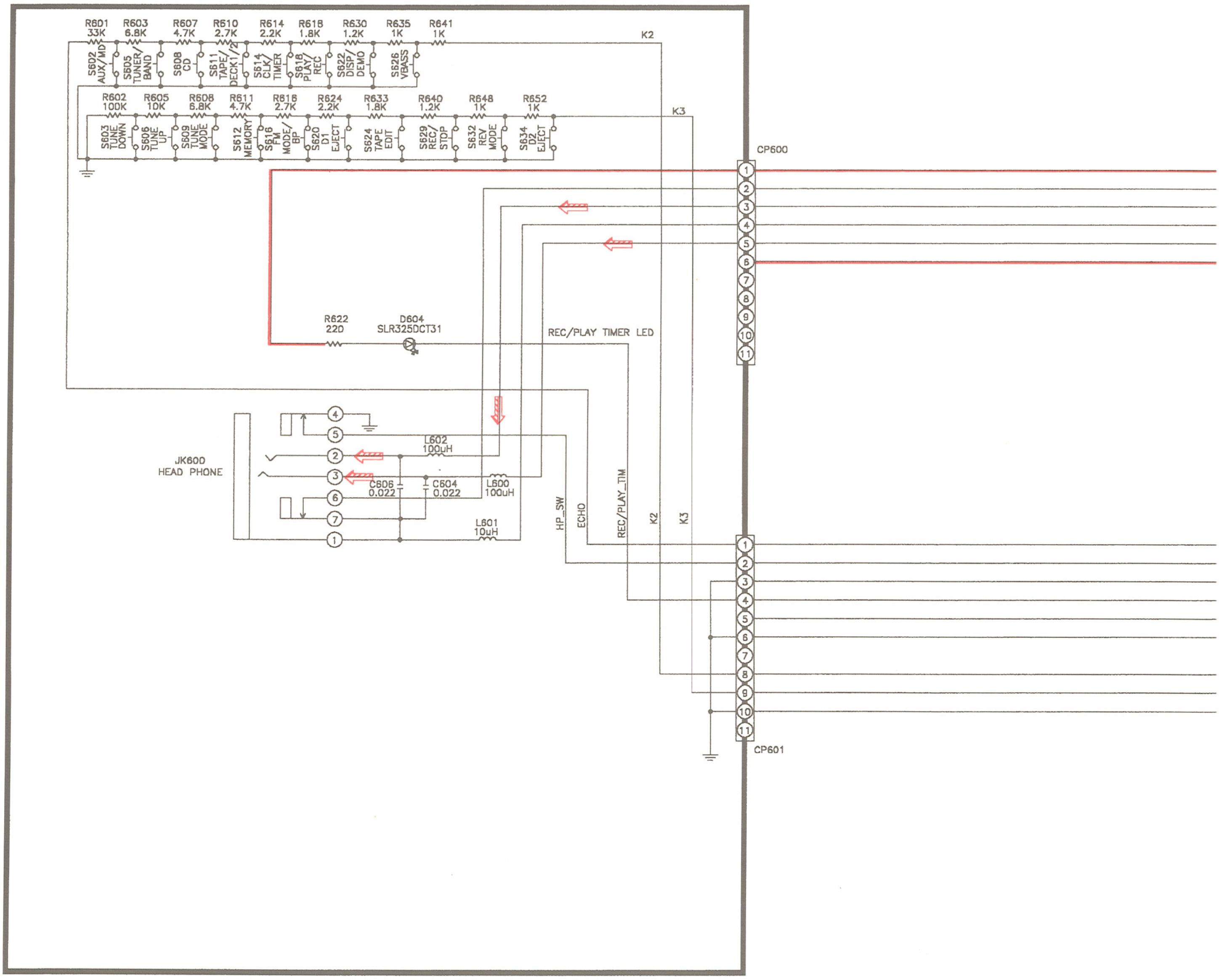

Q308
KRA102MTA
SWITCHING
SPLATCH
SPDATA
SPCLK
VBASS
Q201,Q401
KTC3199GRTA
SWITCHING(V.BASS)
ATTENUATOR
Q306
KRA102MTA
MUTING CONTROL
MUTA
Q200,Q400
2SD2144STA
MUTING
Q201
Q200
Q401
Q400
R329 150K
C330 50V1
C317 50V1
R327 150K
R326 68K
C224 50V2.2
R219 4.7K
C233 50V1
C225 50V3.3
R236 2.2K
R229 4.7K
C238 50V0.33
R228 1K
R220 100K
R221 1K
R223 47K
C227 680P
C438 50V0.33
R428 1K
R429 4.7K
R438 2.2K
R328 68K
R420 100K
R421 1K
R423 47K
C427 680P
C424 50V2.2
R419 4.7K
C433 50V1
C425 50V3.3
−7.0V 25mA
C228 16V10
R225 1K
R224 15K
R226 1.5K
C231 0.15
C229 100P
C230 47P
R230 3.9K
R227 39
R253 39
C318 0.01
IC302
M5218AP
BUFFER AMP
C237 0.047
C232 3300P
C437 0.047
C432 3300P
R430 3.9K
R427 39
R453 39
R426 1.5K
C431 0.15
C428 16V10
C429 100P
C430 47P
R425 1K
R424 15K
SIG_INR
HP_R
HP_L
SIG_INL
+7.5V
C239 1000P
Z300
EXBF7L355SYV
Q350
KSB564ACYGTA
SWITCHING (MOTOR 10V)
Q351
RVTDTC114EST
SWITCHING (PLUNGER)
Q350
Q351
R349 10K
R350 1K
D318 RVD1SS133TA
R345 220
R346 22K
R347 12K
R348 10K
R318 12K
D310 RVD1SS133TA
D306~D308
RVD1SS133TA
D306 D307 D308
Q307
KRC111MTA
SWITCHING
Q307
R313 39K
R316 15K
C331 50V4.7
Q309~Q311
2SC2785FTA
SWITCHING
Q309 Q310 Q311
R456 5.6K
R457 8.2K
R460 3.3K
R458 8.2K
R459 3.9K
D311 RVD1SS133TA
D312 1D3E
LED9V
15V
SIG_INL
SIG_INR
CD5V
/CD
SW5V
−VP
+7.5V
−7.0V
ECON_MODE
PCONT
SYS6V
SYNC
CD7.5V
FL1
FL2
MO10V
DC_DET
CN301
LED9V
15V
MO10V
SGND
Lch
Rch
CD7.5V
CD5V
/CD
SW5V
PGND
GND1
TO POWER CIRCUIT (CP504) (PAGE 40)
L
CN300
−VP
GND2
+7.5V
−7.0V
ECON_MODE
PCONT
SYS6V
SYNC
DC_DET
FL1
FL2
HP_SW
TO POWER CIRCUIT (CP503) (PAGE 40)
L
CN309
CHG_CW
CHG_HALF
8V
CHG_CCW
CLAMP
OPEN
SW1
PGND
SW2
DGND
5V
POSITION
BOTTOMSW
PLUNGER
TO MOTOR CIRCUIT (CN1) (PAGE 41)
G
CN302
CHG_HALF
CHSW1
CHSW2
CHG_CW
MM_CLK/CHG_CCW
MM_I/O /CHG_PLGR
PCONT
SW5V
CD5V
−VP
MO10V
SPCLK
/CD
SPDATA
MUTA
LED9V
SYNC
MM_REQ/VREF+
ECON_MODE
SYS6V
CDR
AGND
CDL
SPEANA
MIC_G
MIC
HP_SW
HP_L
HP_GND
HP_R
TO PANEL CIRCUIT (CP604) (PAGE 39)
C

—— : +B Line ⇨ : Main Signal Line

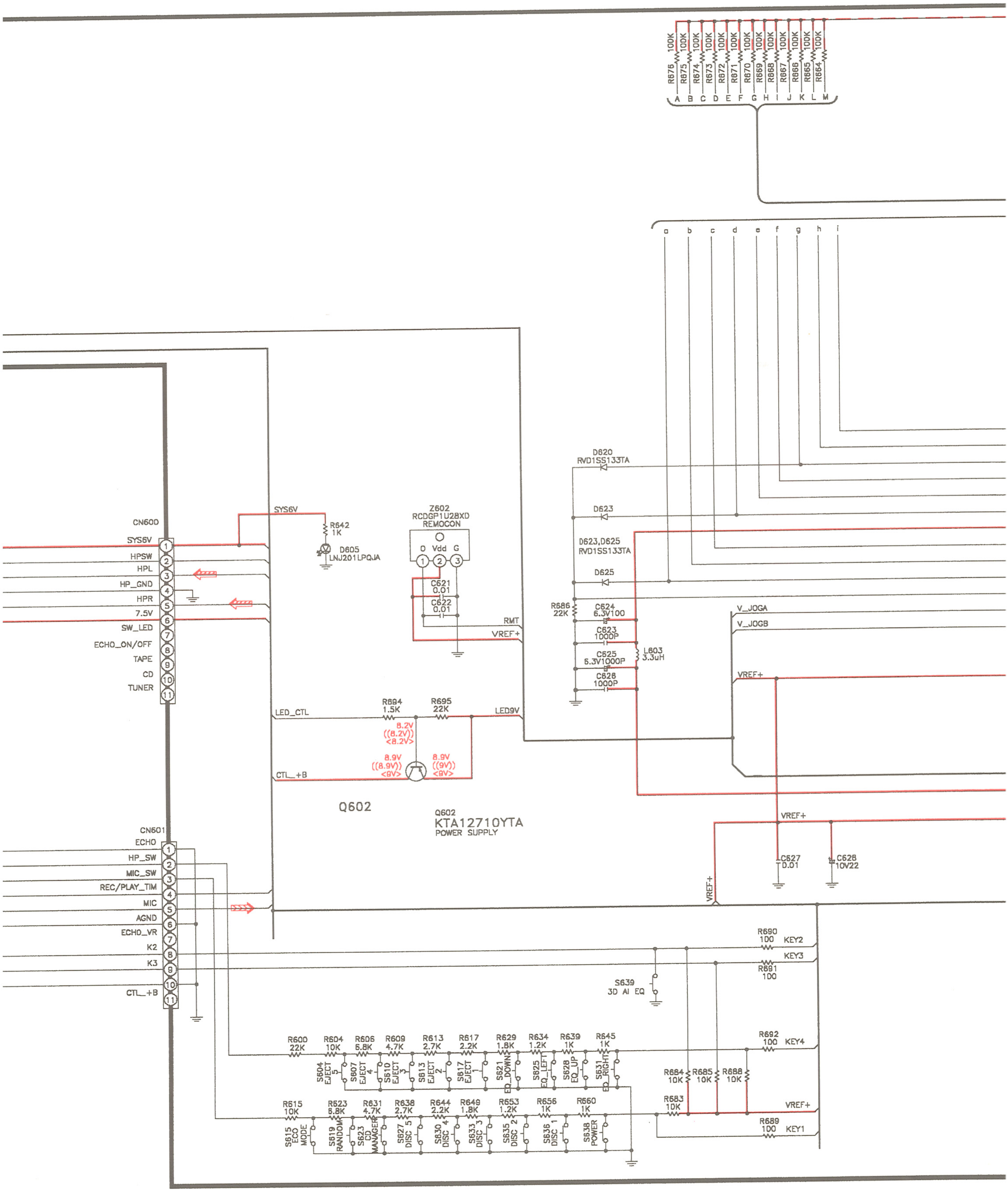
C PANEL CIRCUIT (P.C.Board on page 46)


IC601
BU2090AF-E2
LED DRIVE
5-CD KEY (1-COLOUR)
R661 330
R659 330
R657 330
R655 330
R654 330
R650 330
D615
D614
D613
D612
D611
D610
D606
D607
D608
D609
D606~D615
SLR325MCT31W
R646 82
R985 82
R986 150
R647 330
IC601
G3
G4
G5
MUTE_A
LED_CTL
CLK
DATA
GND
G2
G1
3D_AI
RING
PCONT
/CD
REC/PLY_TIM
VCC
7.5V((7.5V))
<7.5V>
C614 680P
C613 680P
R663 1K
R662 1K
C611 0.1
R658 100
R682 10K
R677 10K
FL LED
D616 SLR325DCT31
D617 SLR325DCT31
R678 390
R679 390
MUTEA
LED_CTL
SER1
SER2
CTL_+B
VREF+
REC/PLAY_TIM
/CD
PCONT

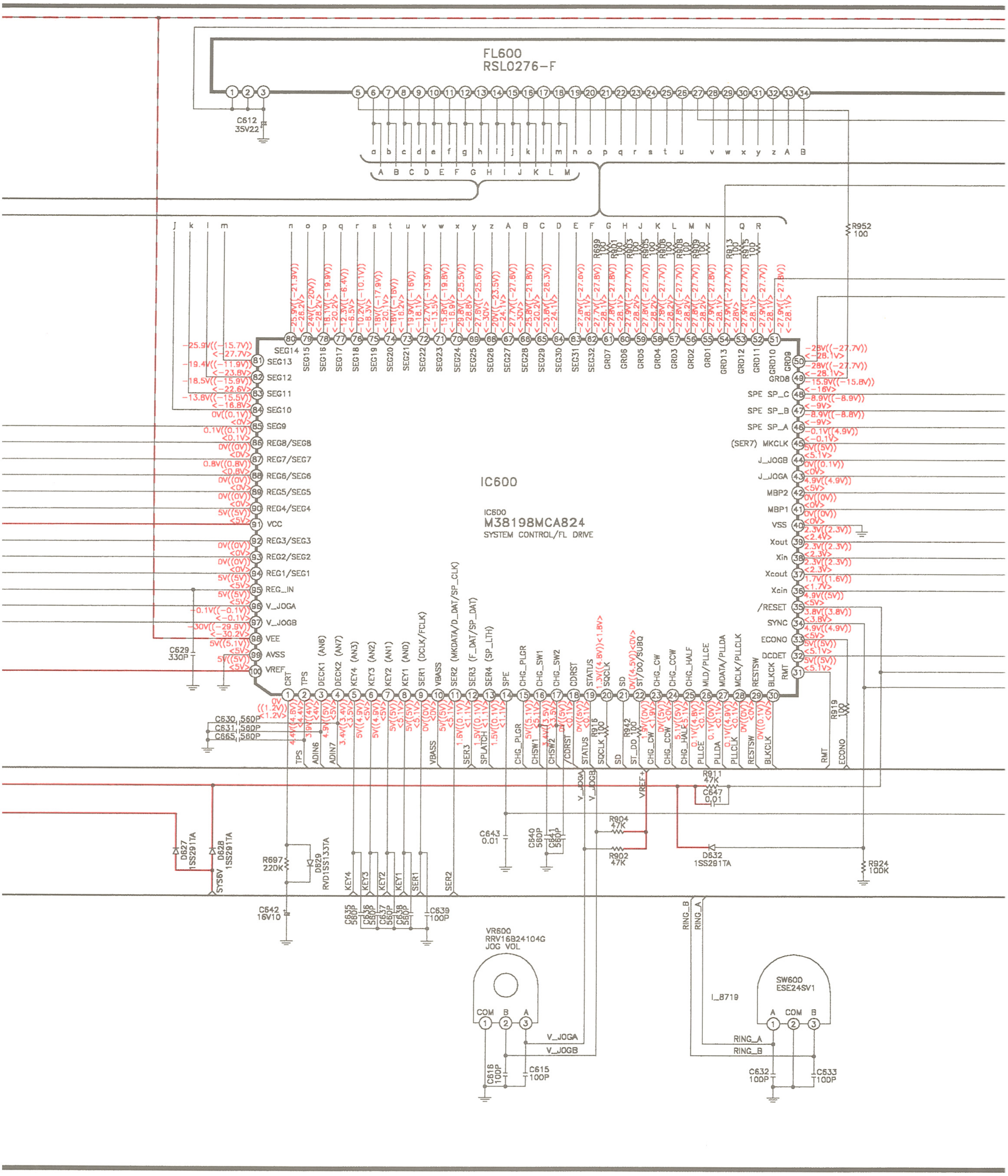
D TACT SWITCH CIRCUIT (P.C.Board on page 48)


R601 33K
R603 6.8K
R607 4.7K
R610 2.7K
R614 2.2K
R618 1.8K
R630 1.2K
R635 1K
R641 1K
S602 AUX/MD
S605 TUNER/BAND
S608 CD
S611 TAPE/DECK1/2
S614 CLK/TIMER
S618 PLAY/REC
S622 DISP/DEMO
S626 VBASS
K2
R602 100K
R605 10K
R608 6.8K
R611 4.7K
R616 2.7K
R624 2.2K
R633 1.8K
R640 1.2K
R648 1K
R652 1K
S603 TUNE DOWN
S606 TUNE UP
S609 TUNE MODE
S612 MEMORY
S616 FM MODE/BP
S620 D1 EJECT
S624 TAPE EDIT
S629 REC/STOP
S632 REV MODE
S634 D2 EJECT
K3
CP600
R622 220
D604 SLR325DCT31
REC/PLAY TIMER LED
JK600
HEAD PHONE
L602 100uH
C606 0.022
C604 0.022
L600 100uH
L601 10uH
HP_SW
ECHO
REC/PLAY_TIM
K2
K3
CP601

————— : +B Line – – – – : –B Line ⇨ : Main Signal Line


R676 100K
R675 100K
R674 100K
R673 100K
R672 100K
R671 100K
R670 100K
R669 100K
R668 100K
R667 100K
R666 100K
R665 100K
R664 100K
A B C D E F G H I J K L M
a b c d e f g h i
D620
RVD1SS133TA
D623
D623,D625
RVD1SS133TA
D625
R686
22K
C624
6.3V100
C623
1000P
C625
6.3V1000P
C626
1000P
L603
3.3uH
V_JOGA
V_JOGB
VREF+
CN600
SYS6V
HPSW
HPL
HP_GND
HPR
7.5V
SW_LED
ECHO_ON/OFF
TAPE
CD
TUNER
SYS6V
R642
1K
D605
LNJ201LPQJA
Z602
RCDGP1U28XD
REMOCON
O Vdd G
C621
0.01
C622
0.01
RMT
VREF+
LED_CTL
R694
1.5K
R695
22K
LED9V
8.2V
((8.2V))
<8.2V>
8.9V
((8.9V))
<9V>
8.9V
((9V))
<9V>
CTL_+B
Q602
Q602
KTA1271OYTA
POWER SUPPLY
VREF+
C627
0.01
C628
10V22
VREF+
CN601
ECHO
HP_SW
MIC_SW
REC/PLAY_TIM
MIC
AGND
ECHO_VR
K2
K3
CTL_+B
R690
100 KEY2
KEY3
R691
100
S639
3D AI EQ
R600 22K
R604 10K
R606 6.8K
R609 4.7K
R613 2.7K
R617 2.2K
R629 1.8K
R634 1.2K
R639 1K
R645 1K
S604 EJECT 5
S607 EJECT 4
S610 EJECT 3
S613 EJECT 2
S617 EJECT 1
S621 EQ_DOWN
S625 EQ_LEFT
S628 EQ_UP
S631 EQ_RIGHT
R692
100 KEY4
R684 10K
R685 10K
R688 10K
R683
10K
VREF+
R689
100 KEY1
R615 10K
R623 6.8K
R631 4.7K
R638 2.7K
R644 2.2K
R649 1.8K
R653 1.2K
R656 1K
R660 1K
S615 ECO MODE
S619 RANDOM
S623 CD MANAGER
S627 DISC 5
S630 DISC 4
S633 DISC 3
S635 DISC 2
S636 DISC 1
S638 POWER

: +B Line : −B Line

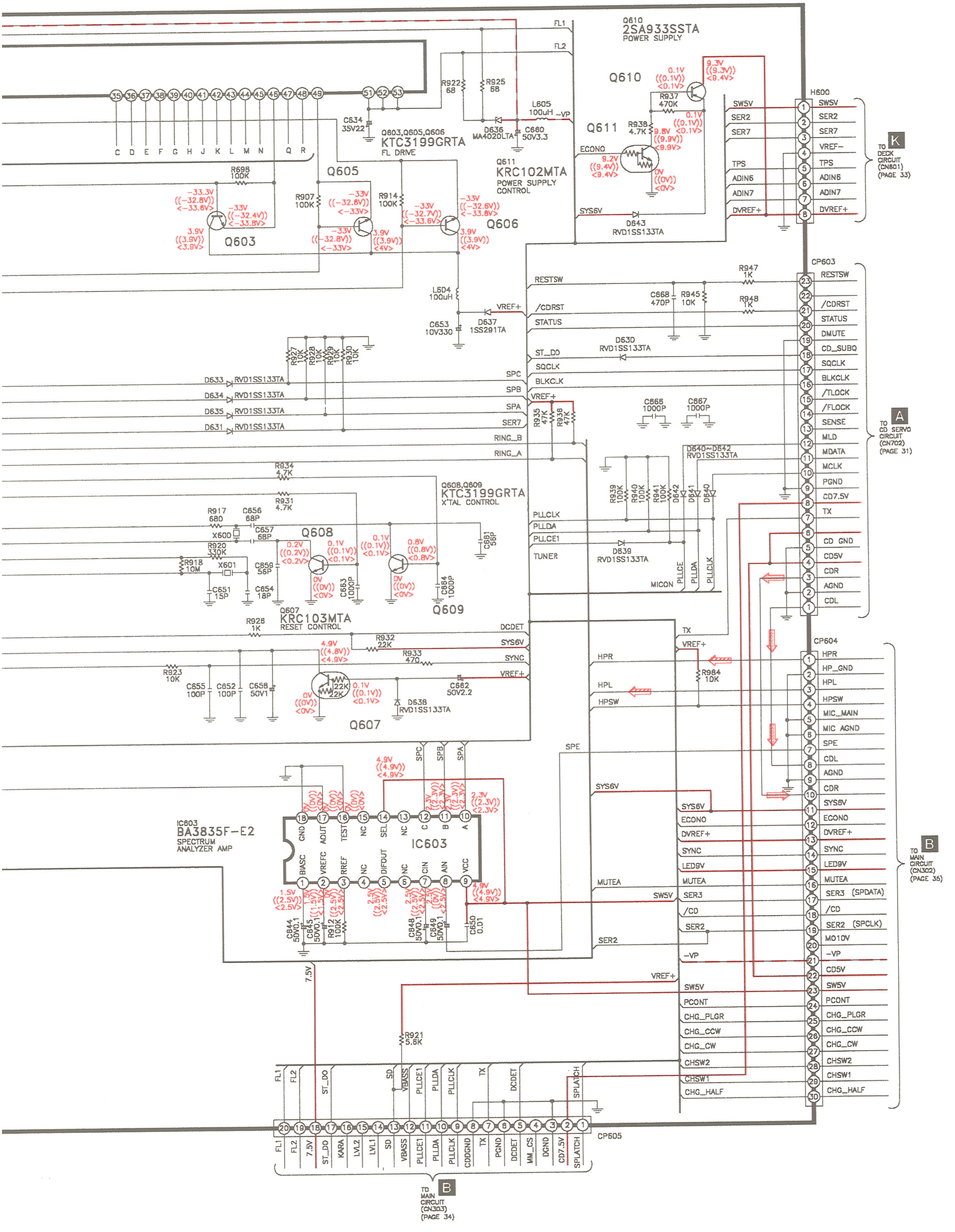

FL600
RSL0276−F
C612
35V22
R952
100
IC600
IC600
M38198MCA824
SYSTEM CONTROL/FL DRIVE
SEG14
SEG13
SEG12
SEG11
SEG10
SEG9
REG8/SEG8
REG7/SEG7
REG6/SEG6
REG5/SEG5
REG4/SEG4
VCC
REG3/SEG3
REG2/SEG2
REG1/SEG1
REG_IN
V_JOGA
V_JOGB
VEE
AVSS
VREF
CRT
TPS
DECK1 (AN8)
DECK2 (AN7)
KEY4 (AN3)
KEY3 (AN2)
KEY2 (AN1)
KEY1 (AN0)
SER1 (DCLK/FCLK)
VBASS
SER2 (MKDATA/D_DAT/SP_CLK)
SER3 (F_DAT/SP_DAT)
SER4 (SP_LTH)
SPE
CHG_PLGR
CHG_SW1
CHG_SW2
CDRST
STATUS
SQCLK
SD
ST/DO/SUBQ
CHG_CW
CHG_CCW
CHG_HALF
MLD/PLLCE
MDATA/PLLDA
MCLK/PLLCLK
RESTSW
BLKCK
RMT
GRD10
GRD9
GRD8
SPE SP_C
SPE SP_B
SPE SP_A
(SER7) MKCLK
J_JOGB
J_JOGA
MBP2
MBP1
VSS
Xout
Xin
Xcout
Xcin
/RESET
SYNC
ECONO
DCDET
C629
330P
C630 560P
C631 560P
C665 560P
D627
1SS291TA
D628
1SS291TA
SYS6V
R697
220K
D629
RVD1SS133TA
C642
16V10
C635 560P
C636 560P
C637 560P
C638 560P
C639
100P
C643
0.01
C640 560P
C641 560P
R904
47K
R902
47K
R911
47K
C647
0.01
D632
1SS291TA
R919
100
R924
100K
R916
100
R942
100
VR600
RRV16B24104G
JOG VOL
COM B A
V_JOGA
V_JOGB
C616
100P
C615
100P
RING_B
RING_A
I_B719
SW600
ESE24SV1
A COM B
C632
100P
C633
100P

—— : +B Line

– – – – : −B Line

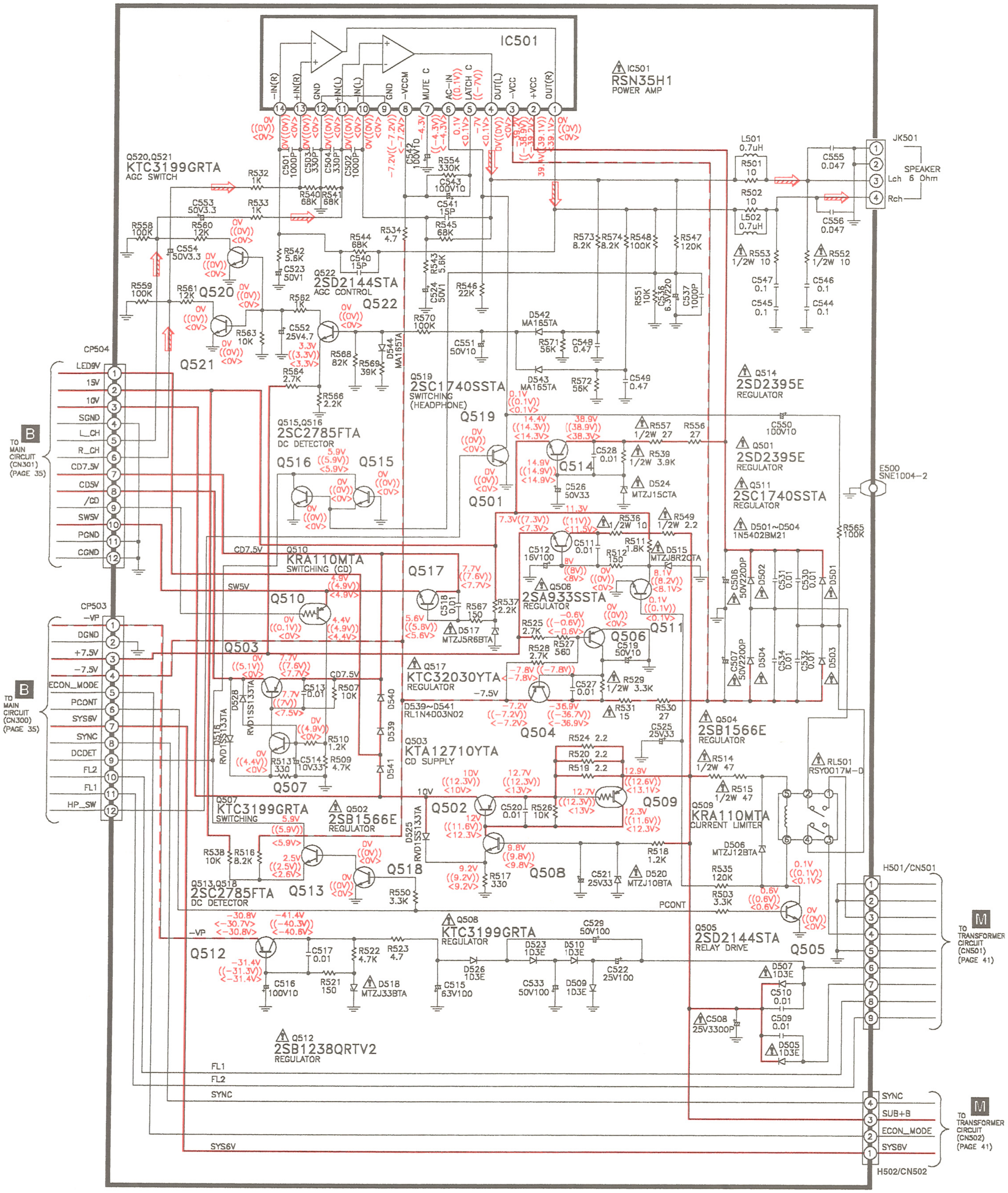
⇨ : Main Signal Line

⇨ : CD Signal Line


Q610
2SA933SSTA
POWER SUPPLY
Q611
KRC102MTA
POWER SUPPLY
CONTROL
Q603,Q605,Q606
KTC3199GRTA
FL DRIVE
Q603
Q605
Q606
Q608,Q609
KTC3199GRTA
X'TAL CONTROL
Q608
Q609
Q607
KRC103MTA
RESET CONTROL
IC603
BA3835F-E2
SPECTRUM
ANALYZER AMP
R922 68
R925 68
L605 100uH
−VP
D636 MA4020LTA
C660 50V3.3
C634 35V22
R698 100K
R907 100K
R914 100K
R937 470K
R938 4.7K
D643 RVD1SS133TA
L604 100uH
C653 10V330
D637 1SS291TA
R927 10K
R928 10K
R929 10K
R930 10K
D633 RVD1SS133TA
D634 RVD1SS133TA
D635 RVD1SS133TA
D631 RVD1SS133TA
R947 1K
R945 10K
R948 1K
C668 470P
D630 RVD1SS133TA
R935 47K
R936 47K
C666 1000P
C667 1000P
D640~D642 RVD1SS133TA
R939 100K
R940 100K
R941 100K
D642
D641
D640
D639 RVD1SS133TA
R934 4.7K
R931 4.7K
R917 680
C656 68P
C657 68P
X600
R920 330K
R918 10M
X601
C659 56P
C651 15P
C654 18P
C663 1000P
C664 1000P
C661 56P
R926 1K
R932 22K
R933 470
R923 10K
C655 100P
C652 100P
C658 50V1
C662 50V2.2
D638 RVD1SS133TA
R984 10K
C644 50V0.1
C645 50V0.1
R912 100K
C648 50V0.1
C649 50V0.1
C650 0.01
R921 5.6K
FL1
FL2
C D E F G H J K L M N Q R
H600
SW5V
SER2
SER7
VREF−
TPS
ADIN6
ADIN7
DVREF+
ECONO
SYS6V
TO DECK CIRCUIT (CN601) (PAGE 33)
K
CP603
RESTSW
/CDRST
STATUS
DMUTE
CD_SUBQ
SQCLK
BLKCLK
/TLOCK
/FLOCK
SENSE
MLD
MDATA
MCLK
PGND
CD7.5V
TX
CD GND
CD5V
CDR
AGND
CDL
ST_DO
SPC
SPB
SPA
SER7
RING_B
RING_A
VREF+
PLLCLK
PLLDA
PLLCE1
TUNER
MICON
PLLCE
PLLDA
PLLCLK
TO CD SERVO CIRCUIT (CN702) (PAGE 31)
A
CP604
HPR
HP_GND
HPL
HPSW
MIC_MAIN
MIC AGND
SPE
CDL
AGND
CDR
SYS6V
ECONO
DVREF+
SYNC
LED9V
MUTEA
SER3 (SPDATA)
/CD
SER2 (SPCLK)
MO10V
−VP
CD5V
SW5V
PCONT
CHG_PLGR
CHG_CCW
CHG_CW
CHSW2
CHSW1
CHG_HALF
TO MAIN CIRCUIT (CN302) (PAGE 35)
B
DCDET
SYS6V
SYNC
VREF+
GND AOUT TEST NC SEL NC C B A
BIASC VREFC RREF NC DIFOUT NC CIN AIN VCC
7.5V
CP605
FL1 FL2 7.5V ST_DO KARA LVL2 LVL1 SD VBASS PLLCE1 PLLDA PLLCLK CDDGND TX PGND DCDET MM_CS DGND CD7.5V SPLATCH
TO MAIN CIRCUIT (CN303) (PAGE 34)
B

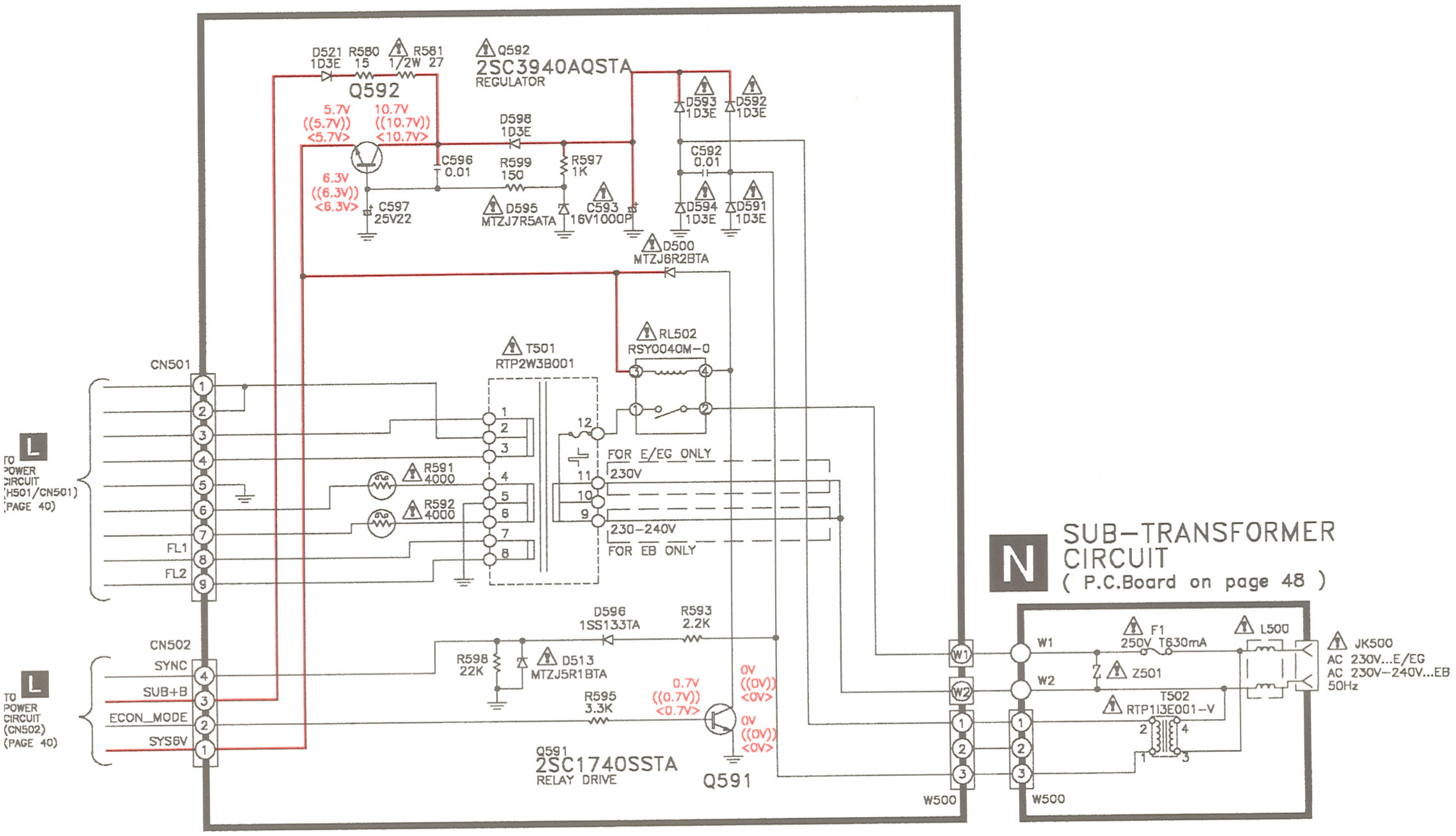
———— : +B Line　– – – – : −B Line　⇨ : Main Signal Line

L POWER CIRCUIT (P.C.Board on page 51)


IC501
⚠IC501 RSN35H1 POWER AMP
−IN(R)
+IN(R)
GND
+IN(L)
−IN(L)
GND
−VCCM
MUTE C
AC−IN
LATCH C
OUT(L)
−VCC
+VCC
OUT(R)
Q520,Q521 KTC3199GRTA AGC SWITCH
Q522 2SD2144STA AGC CONTROL
Q515,Q516 2SC2785FTA DC DETECTOR
Q519 2SC1740SSTA SWITCHING (HEADPHONE)
⚠Q514 2SD2395E REGULATOR
⚠Q501 2SD2395E REGULATOR
⚠Q511 2SC1740SSTA REGULATOR
⚠D501~D504 1N5402BM21
Q510 KRA110MTA SWITCHING (CD)
⚠Q506 2SA933SSTA REGULATOR
⚠Q517 KTC32030YTA REGULATOR
D539~D541 RL1N4003N02
Q503 KTA12710YTA CD SUPPLY
⚠Q504 2SB1566E REGULATOR
Q507 KTC3199GRTA SWITCHING
⚠Q502 2SB1566E REGULATOR
Q509 KRA110MTA CURRENT LIMITER
⚠RL501 RSY0017M-D
Q513,Q518 2SC2785FTA DC DETECTOR
⚠Q508 KTC3199GRTA REGULATOR
Q505 2SD2144STA RELAY DRIVE
⚠Q512 2SB1238QRTV2 REGULATOR
JK501
SPEAKER 6 Ohm
Lch
Rch
E500 SNE1004−2
CP504
LED9V
15V
10V
SGND
L_CH
R_CH
CD7.5V
CD5V
/CD
SW5V
PGND
CGND
B TO MAIN CIRCUIT (CN301) (PAGE 35)
CP503
−VP
DGND
+7.5V
−7.5V
ECON_MODE
PCONT
SYS6V
SYNC
DCDET
FL2
FL1
HP_SW
B TO MAIN CIRCUIT (CN300) (PAGE 35)
H501/CN501
M TO TRANSFORMER CIRCUIT (CN501) (PAGE 41)
SYNC
SUB+B
ECON_MODE
SYS6V
H502/CN502
M TO TRANSFORMER CIRCUIT (CN502) (PAGE 41)

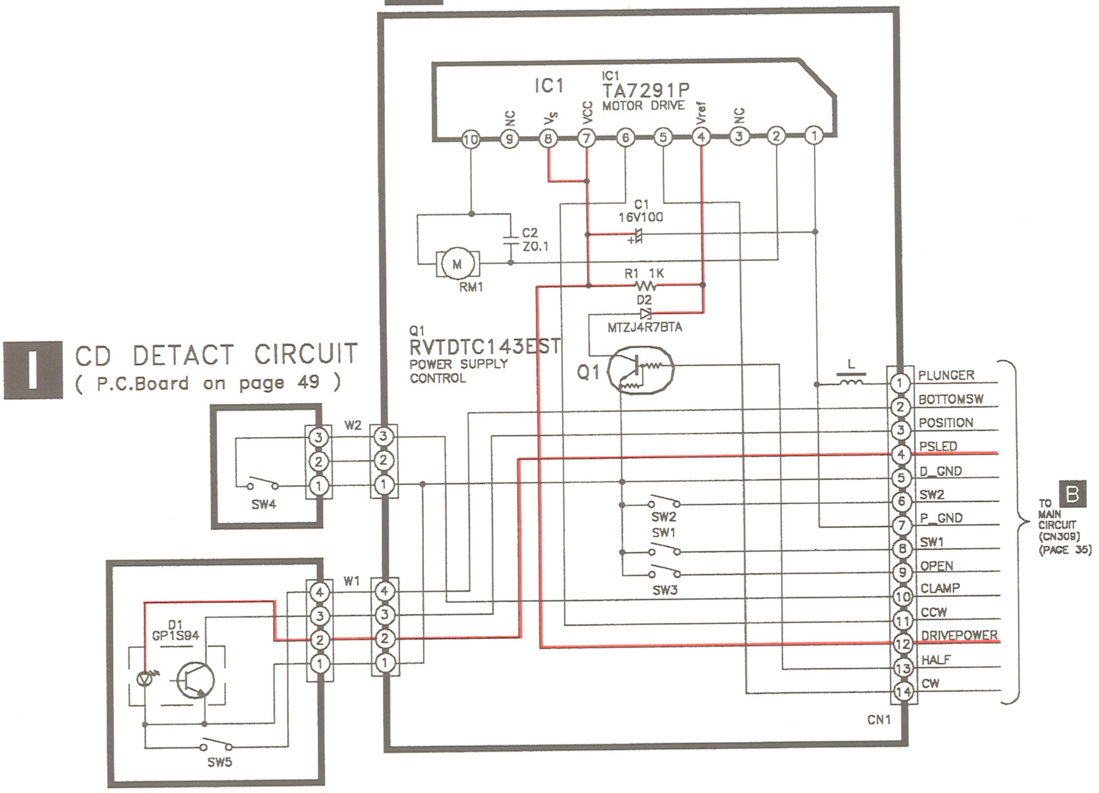
▬ : +B Line

M TRANSFORMER CIRCUIT (P.C.Board on page 42)


D521 1D3E
R580 15
R581 1/2W 27
Q592
5.7V ((5.7V)) <5.7V>
10.7V ((10.7V)) <10.7V>
6.3V ((6.3V)) <6.3V>
C597 25V22
Q592 2SC3940AQSTA REGULATOR
D598 1D3E
C596 0.01
R599 150
R597 1K
D595 MTZJ7R5ATA
C593 16V1000P
D593 1D3E
D592 1D3E
C592 0.01
D594 1D3E
D591 1D3E
D500 MTZJ6R2BTA
RL502 RSY0040M−0
T501 RTP2W3B001
CN501
TO POWER CIRCUIT (CN501/CN501) (PAGE 40)
L
R591 4000
R592 4000
FL1
FL2
FOR E/EG ONLY
230V
230−240V
FOR EB ONLY
CN502
SYNC
SUB+B
ECON_MODE
SYS6V
TO POWER CIRCUIT (CN502) (PAGE 40)
D596 1SS133TA
R593 2.2K
R598 22K
D513 MTZJ5R1BTA
R595 3.3K
0.7V ((0.7V)) <0.7V>
0V ((0V)) <0V>
Q591 2SC1740SSTA RELAY DRIVE
Q591
W500
W1
W2
F1 250V T630mA
L500
Z501
T502 RTP1I3E001−V
JK500
AC 230V...E/EG
AC 230V−240V...EB
50Hz

N SUB−TRANSFORMER CIRCUIT (P.C.Board on page 48)

G MOTOR CIRCUIT (P.C.Board on page 49)


IC1
IC1 TA7291P MOTOR DRIVE
NC
Vs
VCC
Vref
NC
C1 16V100
C2 Z0.1
M
RM1
R1 1K
D2 MTZJ4R7BTA
Q1 RVTDTC143EST POWER SUPPLY CONTROL
Q1
L
PLUNGER
BOTTOMSW
POSITION
PSLED
D_GND
SW2
P_GND
SW1
OPEN
CLAMP
CCW
DRIVEPOWER
HALF
CW
CN1
TO B MAIN CIRCUIT (CN308) (PAGE 35)
SW2
SW1
SW3
W2
SW4
W1
D1 GP1S94
SW5

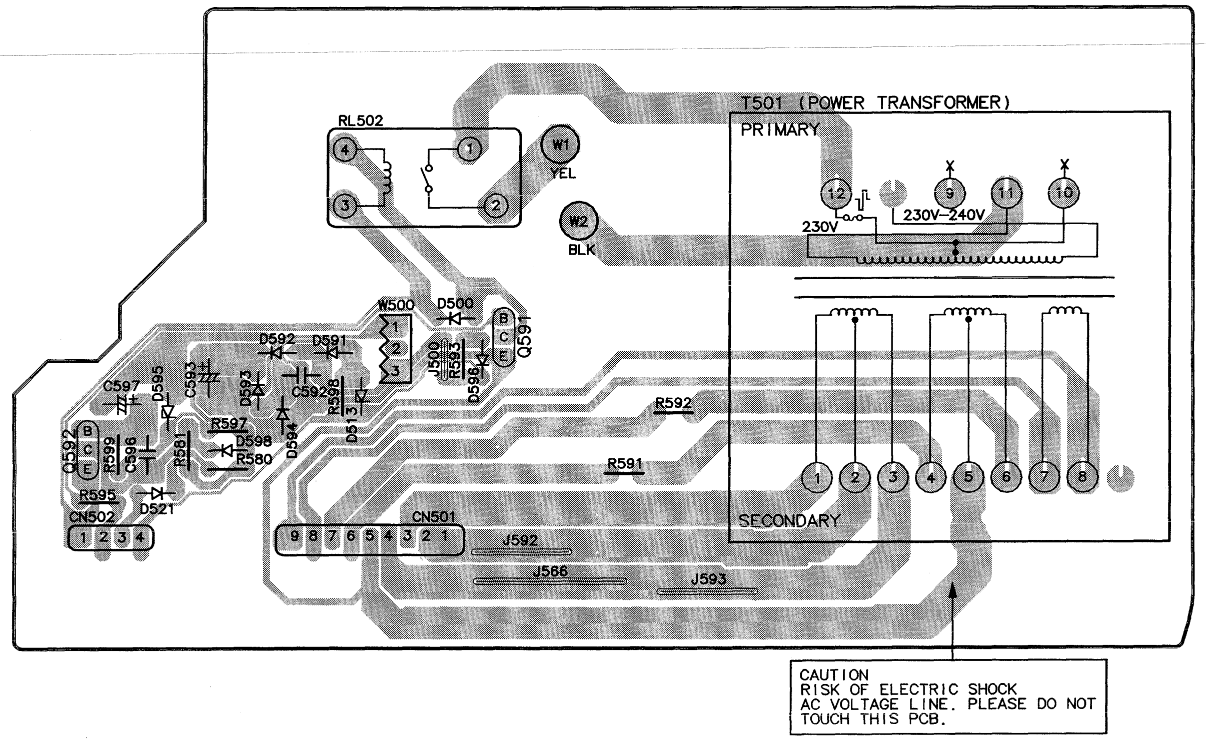
I CD DETECT CIRCUIT (P.C.Board on page 49)

H SPINDLE POSITION CIRCUIT (P.C.Board on page 49)

■ Printed Circuit Board

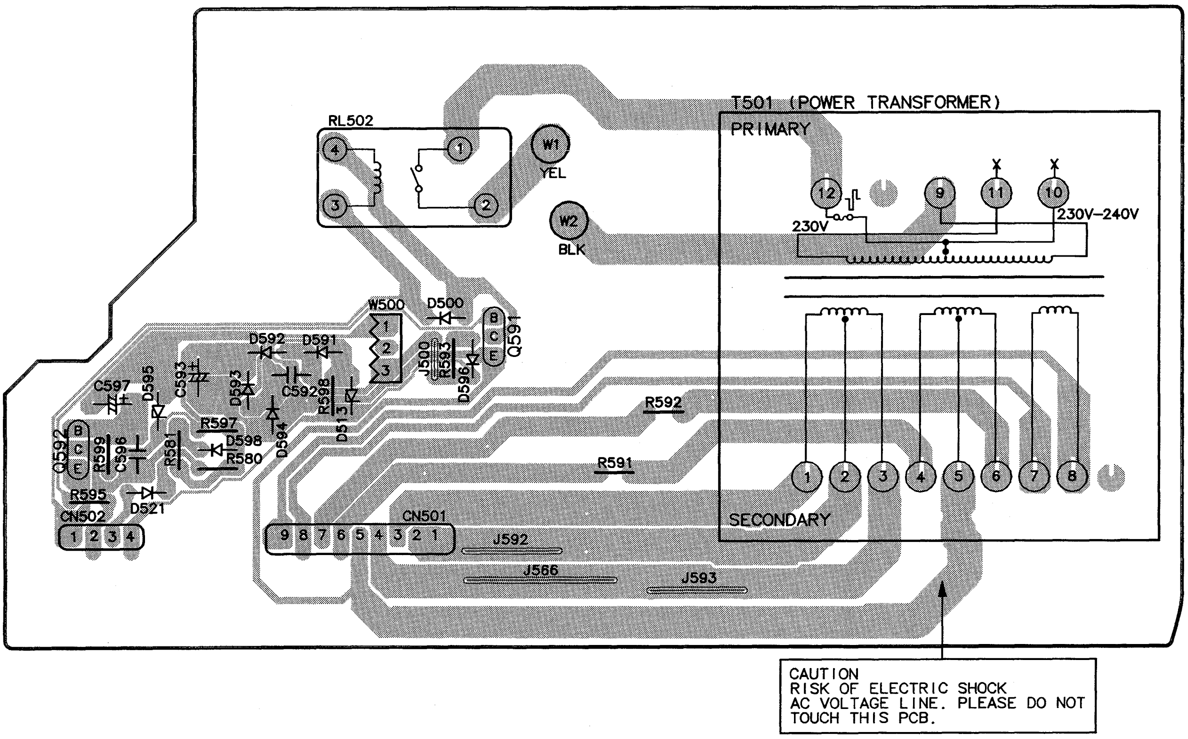
Note : Circuit board diagrams may be modified at any time with the development of new technology.

M TRANSFORMER P.C.B. (REPX0173S)...E,EG...Supplied by MAVD


T501 (POWER TRANSFORMER)
PRIMARY
SECONDARY
230V
230V–240V
12
9
11
10
1
2
3
4
5
6
7
8
RL502
W1
YEL
W2
BLK
W500
D500
Q591
B
C
E
D592
D591
J500
R593
D596
C597
D595
C593
D593
C592
R598
D513
R592
R591
R597
D598
R580
D594
R581
Q592
R599
C596
R595
D521
CN502
1 2 3 4
CN501
9 8 7 6 5 4 3 2 1
J592
J566
J593

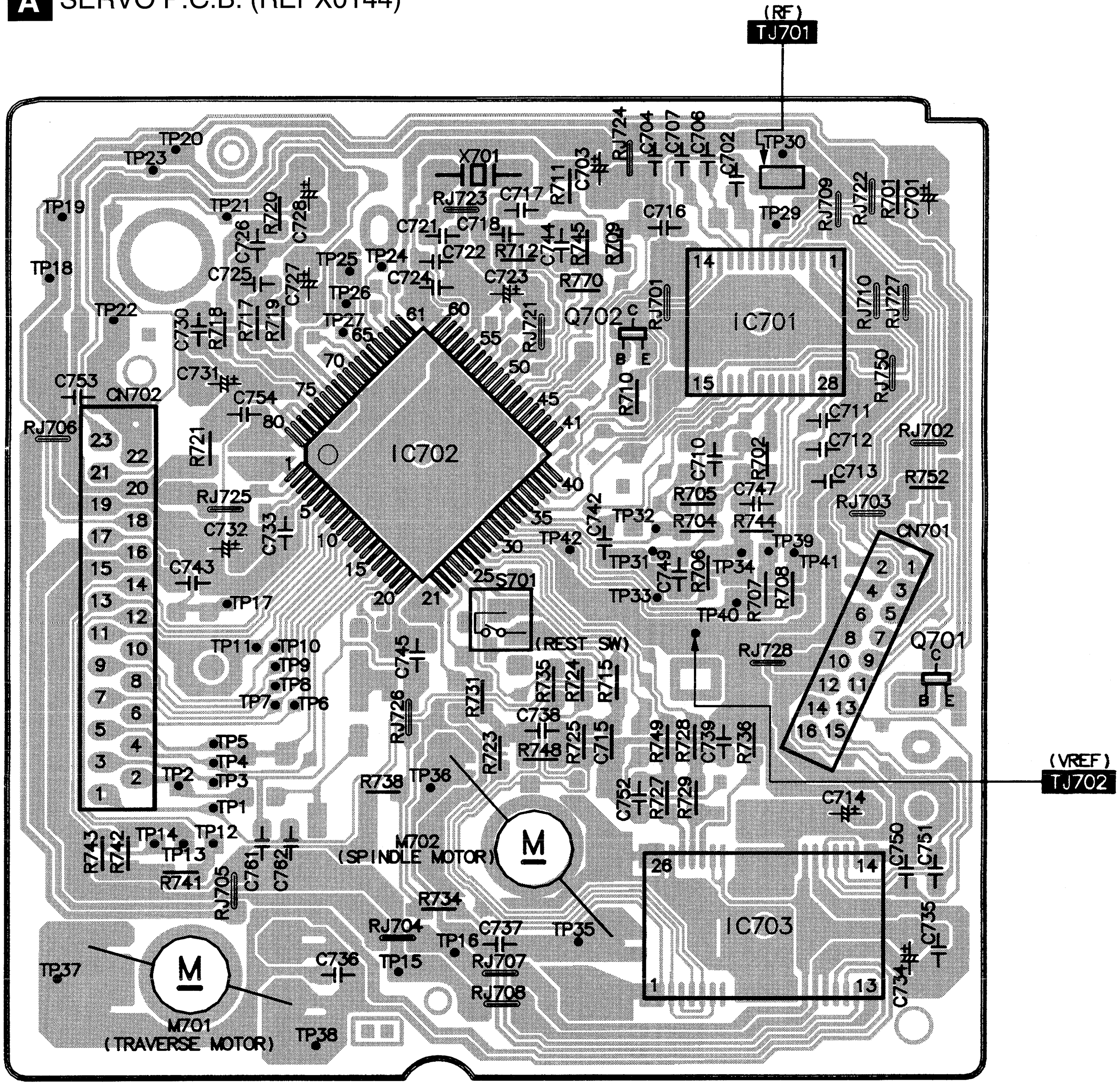
CAUTION
RISK OF ELECTRIC SHOCK
AC VOLTAGE LINE. PLEASE DO NOT
TOUCH THIS PCB.

M TRANSFORMER P.C.B. (REPX0173T)...EB...Supplied by MAVD


T501 (POWER TRANSFORMER)
PRIMARY
SECONDARY
230V
230V–240V
12
9
11
10
1
2
3
4
5
6
7
8
RL502
W1
YEL
W2
BLK
W500
D500
Q591
B
C
E
D592
D591
J500
R593
D596
C597
D595
C593
D593
C592
R598
D513
R592
R591
R597
D598
R580
D594
R581
Q592
R599
C596
R595
D521
CN502
1 2 3 4
CN501
9 8 7 6 5 4 3 2 1
J592
J566
J593

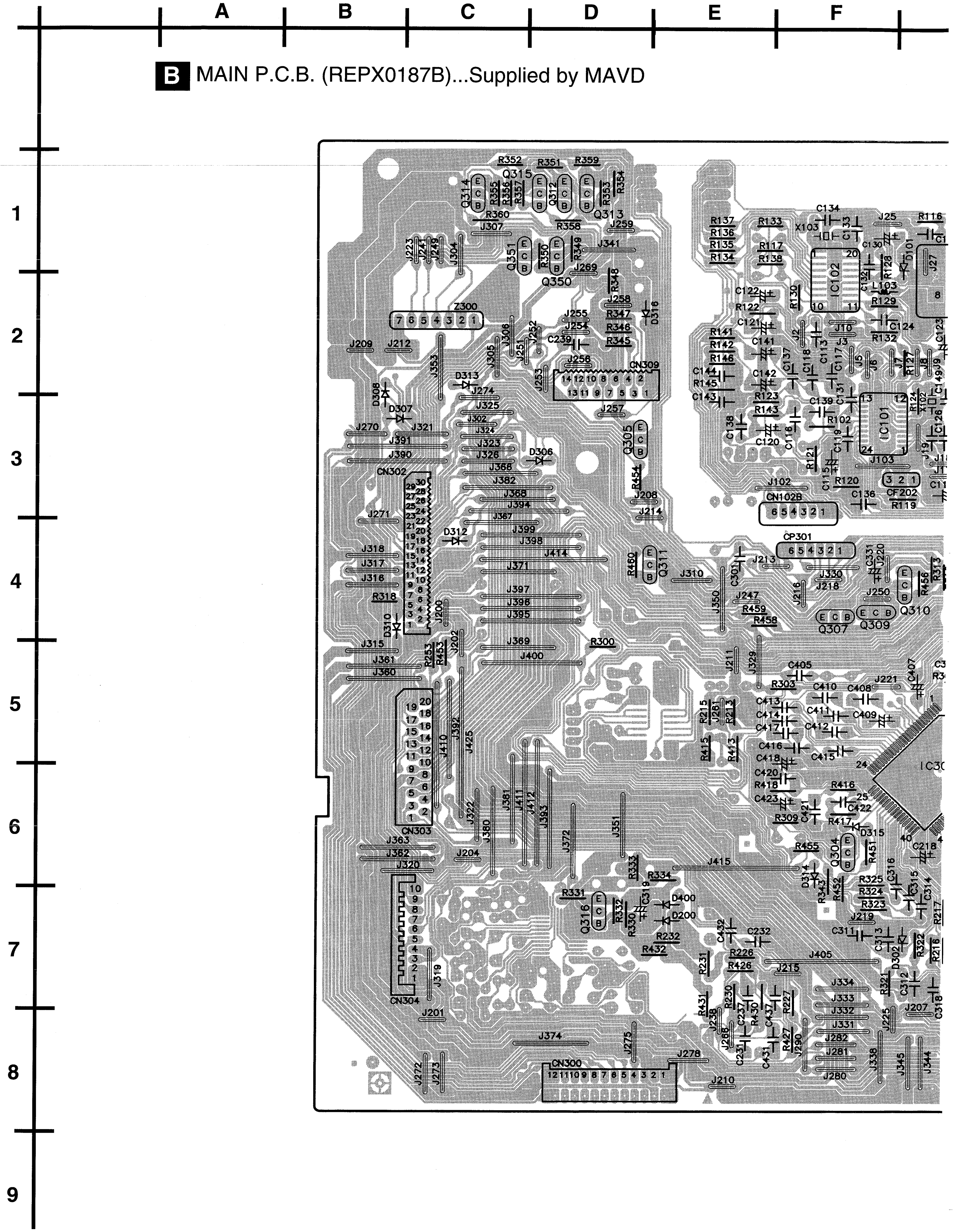
CAUTION
RISK OF ELECTRIC SHOCK
AC VOLTAGE LINE. PLEASE DO NOT
TOUCH THIS PCB.

A SERVO P.C.B. (REPX0144)


(RF)
TJ701
TP20
TP23
TP19
TP18
TP21
TP22
R720
C728
C726
C725
C727
R717
R719
C730
R718
C731
C753
CN702
RJ706
C754
R721
RJ725
C732
C733
C743
TP17
TP11
TP10
TP9
TP8
TP7
TP6
TP5
TP4
TP3
TP2
TP1
TP14
TP13
TP12
R743
R742
R741
RJ705
C761
C762
TP25
TP24
TP26
TP27
X701
RJ723
C717
C721
C718
C722
R712
C724
C723
R711
C703
RJ724
C704
C707
C706
C702
C744
R745
R709
R770
RJ721
RJ701
Q702
C
B
E
R710
C716
TP30
TP29
RJ709
RJ722
R701
C701
IC701
14
1
15
28
RJ710
RJ727
RJ750
IC702
61
60
65
55
70
50
75
45
80
41
1
40
5
35
10
30
15
25
20
21
S701
(REST SW)
C711
C712
C713
RJ702
R752
RJ703
C710
R702
R705
C747
R704
R744
C742
TP32
TP42
TP31
C749
R706
TP34
TP39
TP41
TP33
R707
R708
TP40
CN701
Q701
RJ728
C745
RJ726
R731
R735
R724
R715
C738
R723
R748
R725
C715
R749
R728
C739
R736
C752
R727
R729
C714
(VREF)
TJ702
R738
TP36
M702
(SPINDLE MOTOR)
M
C750
C751
IC703
26
14
1
13
C735
C734
R734
RJ704
C737
TP16
TP35
C736
TP15
RJ707
RJ708
TP37
M701
(TRAVERSE MOTOR)
TP38

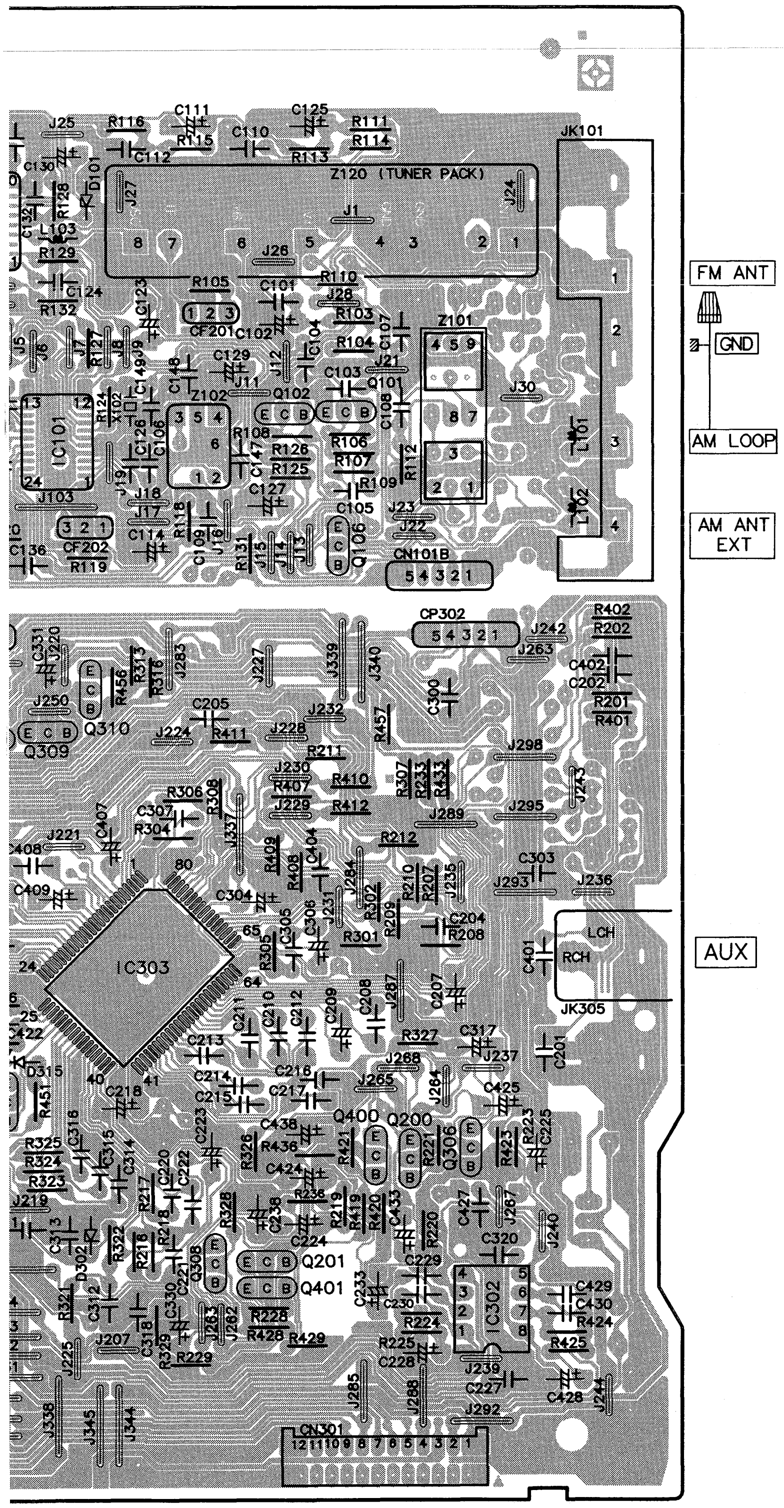
Ref. No.	Loc. No.
IC701	F3
IC702	D4
IC703	F7
Q701	G5
Q702	E3

B MAIN P.C.B. (REPX0187B)...Supplied by MAVD


A
B
C
D
E
F
1
2
3
4
5
6
7
8
9
R352
R351
R359
Q315
Q314
R355
R356
R357
Q312
R353
R354
Q313
R360
J307
R358
J259
J223
J241
J249
J304
Q351
R350
R349
J341
Q350
J269
R348
Z300
J258
D316
J255
J254
R347
R346
R345
C239
J209
J212
J353
J306
J305
J251
J252
J256
CN309
J253
D313
J274
J325
D308
D307
J270
J321
J302
J324
J323
J326
J391
J390
D306
J257
Q305
CN302
J368
J382
R454
J208
J394
J367
J214
J271
D312
J399
J398
J414
J318
J317
J316
J371
R460
Q311
J310
R318
J397
J396
J395
J200
D310
J202
J315
J361
J380
R253
R453
J389
J400
R300
CN303
J410
J392
J425
J322
J380
J381
J411
J412
J393
J372
J351
J363
J362
J320
J204
J415
R333
R334
R331
Q316
R332
C319
R330
D400
D200
R232
R432
CN304
J319
J201
J374
J275
J278
CN300
J272
J273
J210
R137
R136
R135
R134
R133
R117
R138
C134
X103
C133
J25
R116
C130
IC102
C132
R128
D101
J27
L103
C122
R122
R130
R129
C121
C124
J10
R132
C123
R141
R142
R146
J2
C141
C137
C118
C113
C117
J3
J5
J6
J7
R127
J8
C149
J9
C144
R145
C142
R123
C143
R143
C139
C131
R102
IC101
R124
X102
C126
C138
C120
C116
C119
J19
R121
C115
R120
J103
J102
CN102B
C136
CF202
R119
CP301
C331
J220
R313
J213
C301
J330
J218
R456
J216
J247
J250
Q310
R459
R458
J350
Q307
Q309
J211
J329
C405
R303
C410
C408
J221
C407
C413
C414
C411
C409
R215
J261
R213
C417
C412
R415
R413
C416
C415
C418
IC30
C420
R418
R416
C423
C421
C422
R309
R417
D315
R455
Q304
R451
C218
D314
R343
R452
R325
R324
C316
C315
C314
R323
J219
R217
C432
C232
C311
C313
D302
R322
R216
R231
R226
R426
J405
J215
R321
C312
J334
J333
J332
J331
J282
J281
J280
R431
J238
R230
C237
R430
C437
R227
J225
J207
C318
J268
C231
C431
R427
J290
J338
J345
J344

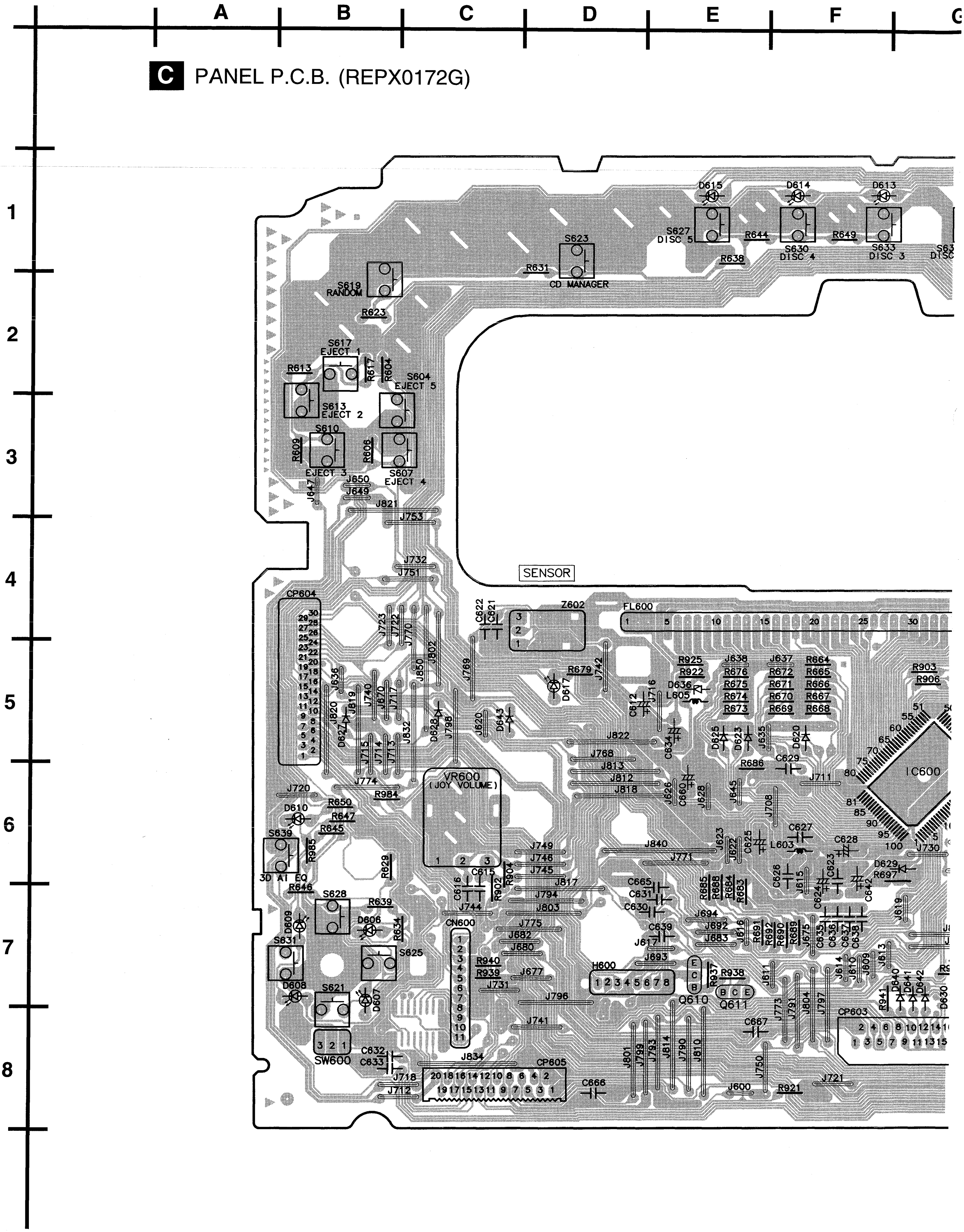
G H I J K L M

J TUNER P.C.B. (REPX0188B)...Supplied by MAVD

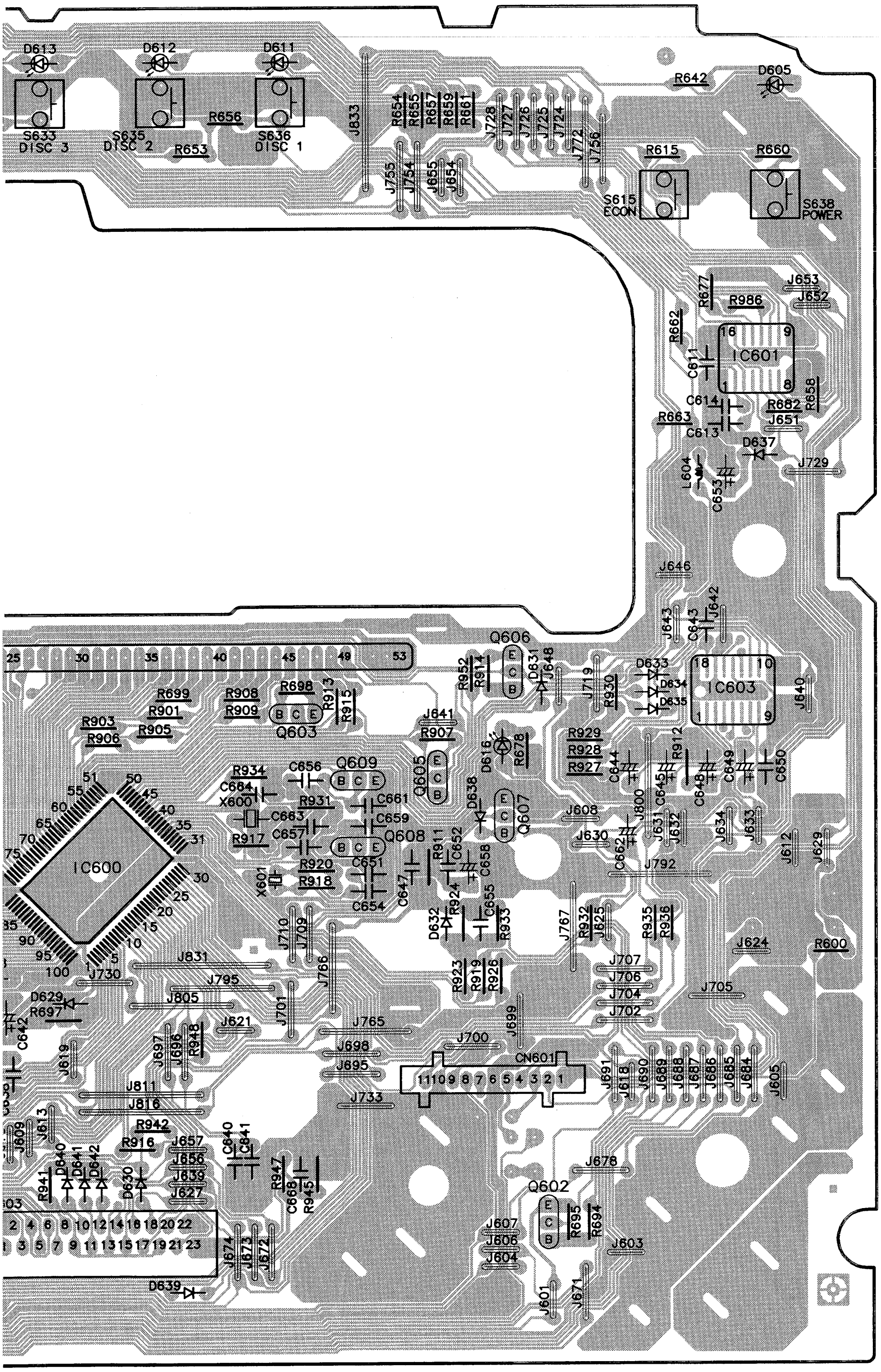

Z120 (TUNER PACK)
JK101
FM ANT
GND
AM LOOP
AM ANT EXT
IC101
Z101
Z102
CF201
CF202
J103
CN101B
CP302
IC303
IC302
JK305
LCH
RCH
AUX
CN301
L101
L102
Q101
Q102
Q106
Q200
Q201
Q306
Q308
Q309
Q310
Q400
Q401
D101
D302
D315

Ref. No.	Loc. No.
D101	F2
D200	D7
D302	F7
D306	C3
D307	B3
D308	B3
D310	B4
D312	C4
D313	C3
D314	F6
D315	F6
D316	D2
D400	D7
IC101	E3
IC102	E2
IC302	H7
IC303	D6
Q101	H3
Q106	H3
Q200	H7
Q201	G7
Q304	F6
Q305	D3
Q306	H7
Q307	F4
Q308	G7
Q309	F4
Q310	F4
Q311	D4
Q312	D1
Q313	D1
Q314	C1
Q315	C1
Q316	D7
Q350	C1
Q351	C1
Q400	H7
Q401	G7

C PANEL P.C.B. (REPX0172G)


A
B
C
D
E
F
1
2
3
4
5
6
7
8
D615
D614
D613
S627
DISC 5
R644
S630
DISC 4
R649
S633
DISC 3
R638
S623
CD MANAGER
R631
S619
RANDOM
R623
S617
EJECT 1
R617
R604
R613
S604
EJECT 5
S613
EJECT 2
S610
EJECT 3
R609
R606
S607
EJECT 4
J647
J650
J649
J821
J753
J732
J751
SENSOR
CP604
Z602
FL600
C622
C621
J723
J722
J770
J802
J850
J769
R679
J742
D617
R925
R922
J638
J637
R664
R665
R676
R675
R674
R673
R672
R671
R670
R669
R666
R667
R668
R903
R906
D636
L605
C612
J716
J636
J820
J819
J740
J670
J717
J832
D627
J715
J714
J713
D628
J798
J620
D643
J822
C634
D625
D623
J635
D620
J768
J813
J812
J818
R686
C629
J711
IC600
VR600
(JOY VOLUME)
J774
R984
J720
D610
R650
R647
R645
S639
R985
3D AI EQ
R646
J626
C660
J628
J645
J708
J840
J771
J623
J622
C625
L603
C627
C628
D629
R697
J730
J749
J746
J745
J817
C615
R904
C616
R902
R629
J794
J803
C665
C631
C630
R685
R688
R684
R683
C626
J615
C624
C623
C642
S628
R639
D609
D606
R634
J744
CN600
J775
J682
J680
C639
J617
J694
J692
J683
J616
R691
R692
R690
R689
J675
C635
C636
C637
C638
J619
S631
S625
R940
R939
J677
J731
H600
J893
Q610
R937
R938
Q611
J611
J614
J610
J609
J613
D640
D641
D642
R941
D630
D608
S621
D607
J796
J741
C667
J773
J791
J804
J797
CP603
SW600
C632
C633
J834
CP605
J718
J712
C666
J801
J799
J793
J814
J790
J810
J750
J600
R921
J721

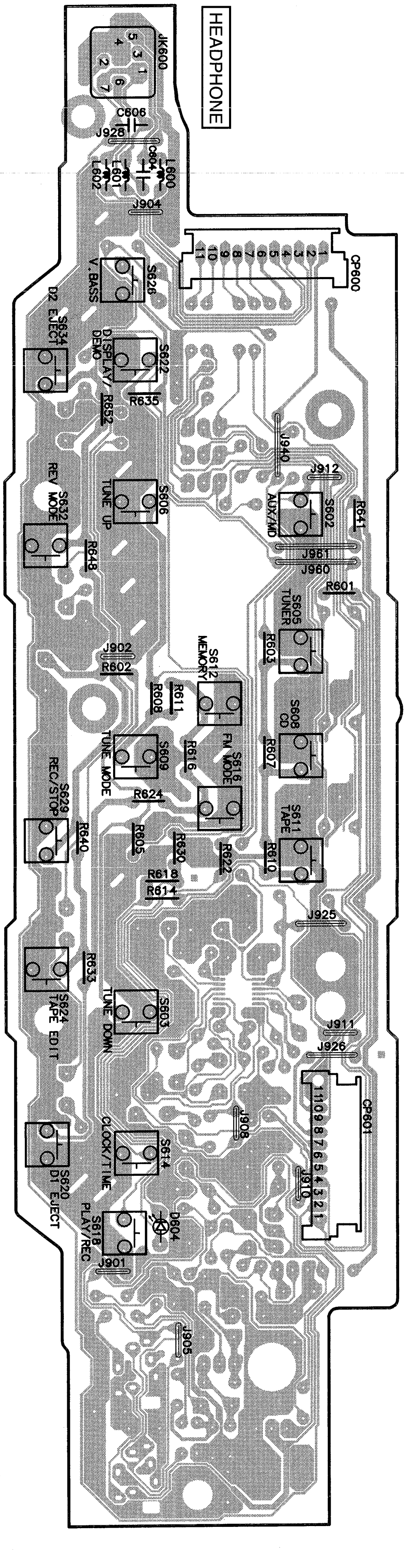
G H I J K L M


D613
D612
D611
S633 DISC 3
S635 DISC 2
S636 DISC 1
R656
R653
J833
R654
R655
R657
R659
R661
J728
J727
J726
J725
J724
J772
J756
J755
J754
J655
J654
R642
D605
R615
R660
S615 ECON
S638 POWER
J653
J652
R677
R986
R662
IC601
16
9
1
8
C611
C614
R682
R658
J651
R663
C613
D637
L604
C653
J729
J646
J643
C643
J642
Q606
D631
J648
R952
R914
J719
R930
D633
D634
D635
IC603
18
10
1
9
J640
25
30
35
40
45
49
53
R699
R908
R698
R913
R915
R909
R901
Q603
R903
R906
R905
J641
R907
Q605
D616
R678
R929
R928
R927
R912
C644
C645
C648
C649
C650
R934
C656
Q609
C684
X600
C661
C659
C663
C657
R931
R917
Q608
D638
Q607
J608
J800
J631
J632
J634
J633
J630
C662
J792
J612
J629
IC600
51
50
55
45
60
40
65
35
70
31
75
30
25
20
85
15
90
10
95
100
1
5
R920
R918
X601
C651
C654
C647
R911
C652
C658
D632
R924
C655
R933
J767
R932
J625
R935
R936
J624
R600
J710
J709
J766
J831
J730
J795
J805
J701
D629
R697
J621
J765
J707
J706
J704
J702
J705
C642
J619
J697
J696
R948
J698
J695
J700
J699
CN601
11 10 9 8 7 6 5 4 3 2 1
J691
J618
J690
J689
J688
J687
J686
J685
J684
J605
J811
J816
J733
J609
J613
R942
R916
J657
J656
J639
J627
C640
C641
R947
C668
R945
D640
D641
D642
R941
D630
J678
Q602
R695
R694
2 4 6 8 10 12 14 16 18 20 22
1 3 5 7 9 11 13 15 17 19 21 23
J674
J673
J672
J607
J606
J604
J603
D639
J601
J671

Ref. No.	Loc. No.
D605	K1
D606	B7
D607	B7
D608	B7
D609	B7
D610	B6
D611	H1
D612	G1
D613	G1
D614	F1
D615	E1
D616	I5
D617	D5
D620	F5
D622	F5
D623	E5
D624	E5
D625	E5
D627	B5
D628	C5
D629	G6
D630	G7
D631	J4
D632	I6

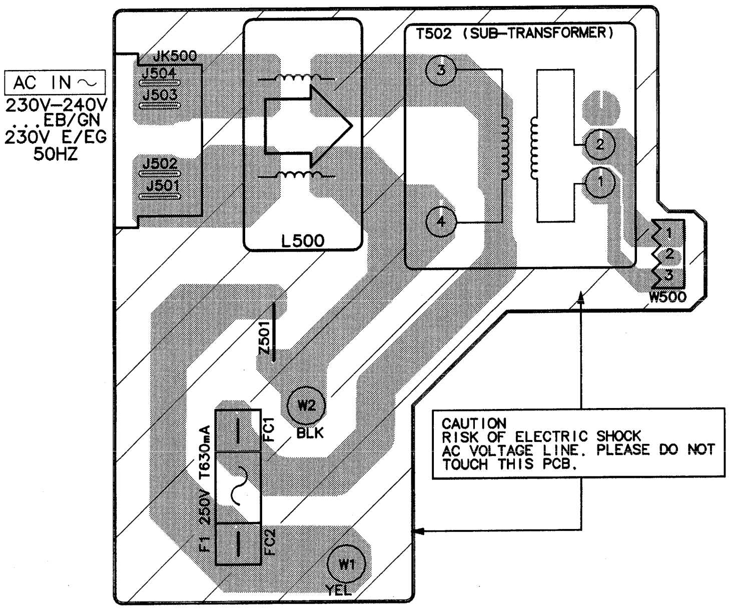
Ref. No.	Loc. No.
D633	J4
D634	J5
D635	J5
D636	E5
D637	K3
D638	I5
D639	G8
D640	G7
D641	G7
D642	G7
D643	D5
IC600	G6
IC601	C7
IC603	K5
Q602	J8
Q603	H5
Q605	I5
Q606	I4
Q607	I5
Q608	H5
Q609	H5
Q610	E7
Q611	E7

D TACT SWTICH P.C.B. (REPX0179E)

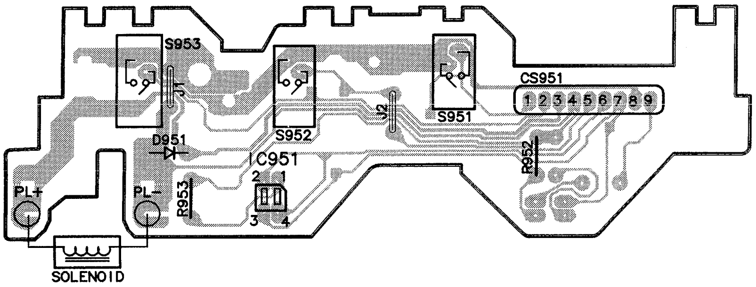

HEADPHONE
JK600
C606
J928
C604
L600
L601
L602
J904
CP600
S626
V. BASS
S634
D2 EJECT
S622
DISPLAY/
DEMO
R635
R652
J940
J912
S602
AUX/MD
R641
S632
REV MODE
S606
TUNE UP
R648
J961
J960
R601
S605
TUNER
R603
J902
R602
S612
MEMORY
R611
R608
S608
CD
S609
TUNE MODE
R616
S616
FM MODE
R607
R624
S629
REC/STOP
R640
R605
R630
R622
S611
TAPE
R610
R618
R614
J925
S624
TAPE EDIT
R633
S603
TUNE DOWN
J911
J926
CP601
J908
S614
CLOCK/TIME
J910
S620
D1 EJECT
S618
PLAY/REC
D604
J901
J905

N SUB-TRANSFORMER P.C.B.

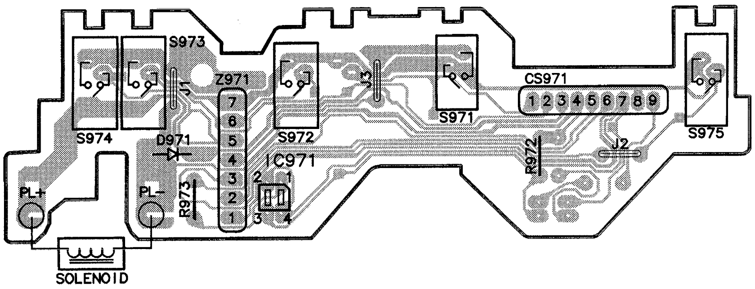
(REPX0173S)...E,EG...Supplied by MAVD
(REPX0173T)...EB...Supplied by MAVD


AC IN ~
230V–240V
...EB/GN
230V E/EG
50HZ
JK500
J504
J503
J502
J501
L500
T502 (SUB-TRANSFORMER)
W500
Z501
W2
BLK
FC1
F1 250V T630mA
FC2
W1
YEL
CAUTION
RISK OF ELECTRIC SHOCK
AC VOLTAGE LINE. PLEASE DO NOT
TOUCH THIS PCB.

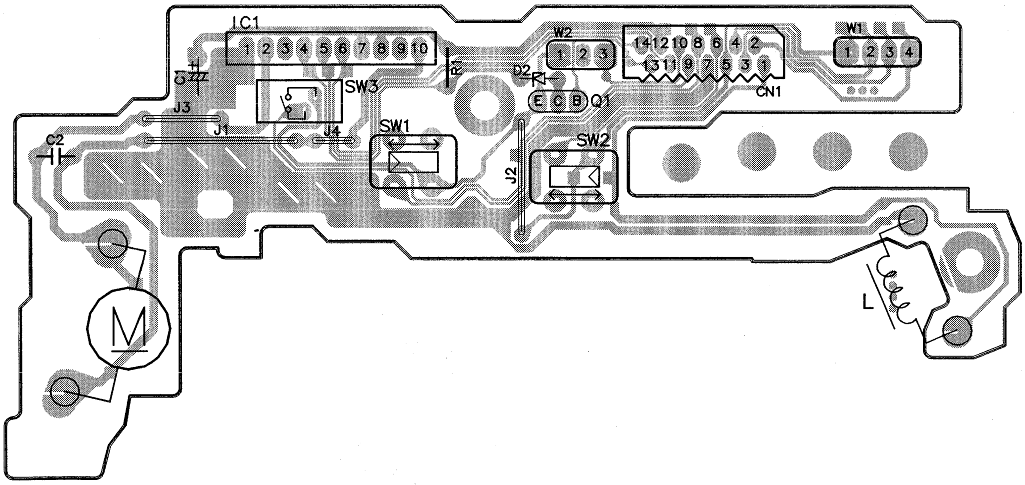
E MECHANISM (DECK 1) P.C.B. (REPX0108A)


S953
S952
S951
CS951
1 2 3 4 5 6 7 8 9
J1
J2
D951
IC951
1 2 3 4
R953
R952
PL+
PL−
SOLENOID

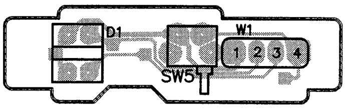
F MECHANISM (DECK 2) P.C.B. (REPX0108)


S973
S974
Z971
7 6 5 4 3 2 1
J1
J3
J2
D971
S972
S971
S975
CS971
1 2 3 4 5 6 7 8 9
IC971
1 2 3 4
R973
R972
PL+
PL−
SOLENOID

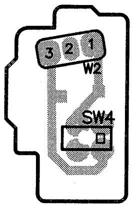
G MOTOR P.C.B. (REP2578A-N)


IC1
1 2 3 4 5 6 7 8 9 10
R1
W2
1 2 3
D2
E C B Q1
14 12 10 8 6 4 2
13 11 9 7 5 3 1
CN1
W1
1 2 3 4
SW3
J3
J1
J4
SW1
J2
SW2
C2
M
L

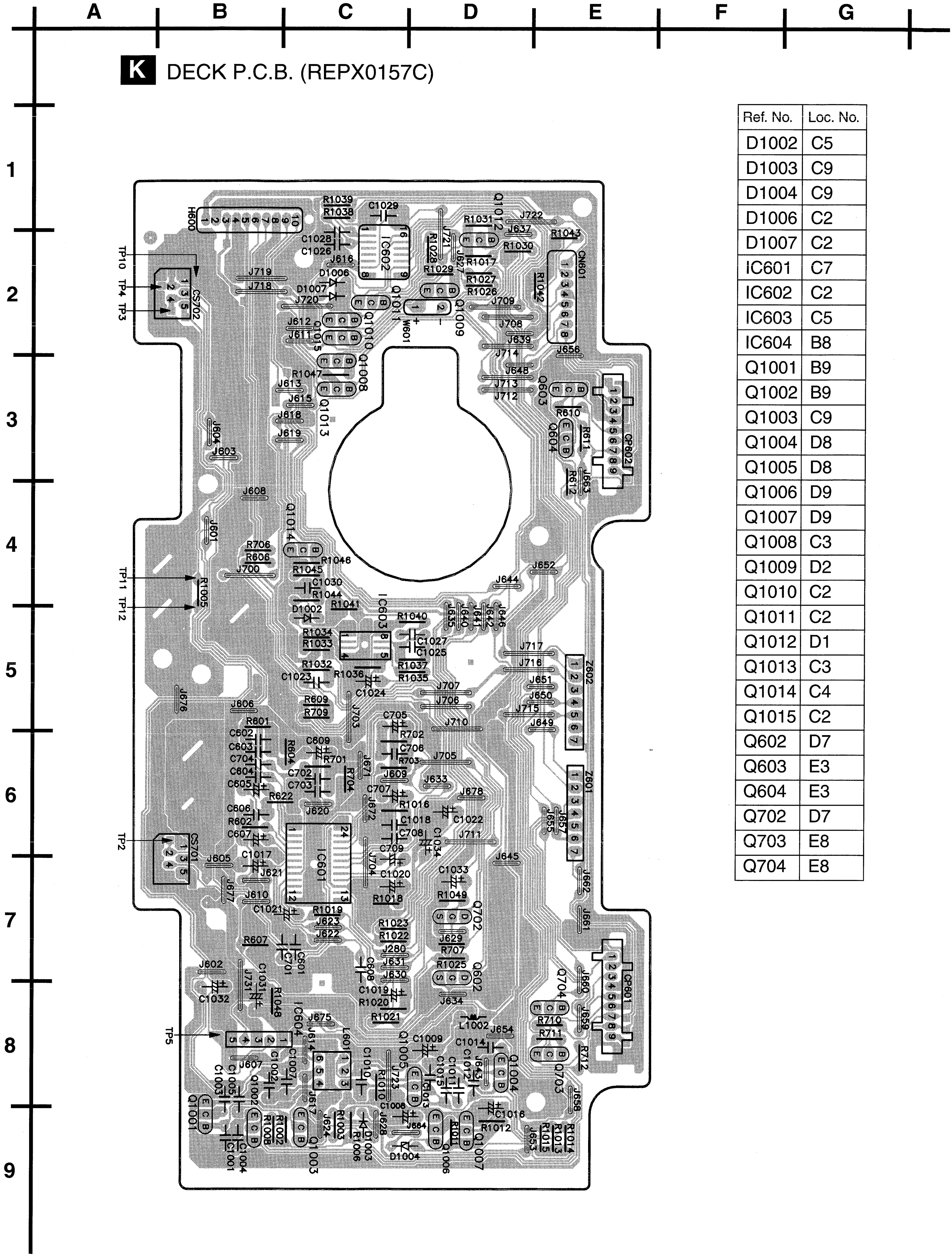
H SPINDLE POSITION P.C.B. (REP2578A-N)


D1
W1
1 2 3 4
SW5

I CD DETACT P.C.B. (REP2578A-N)

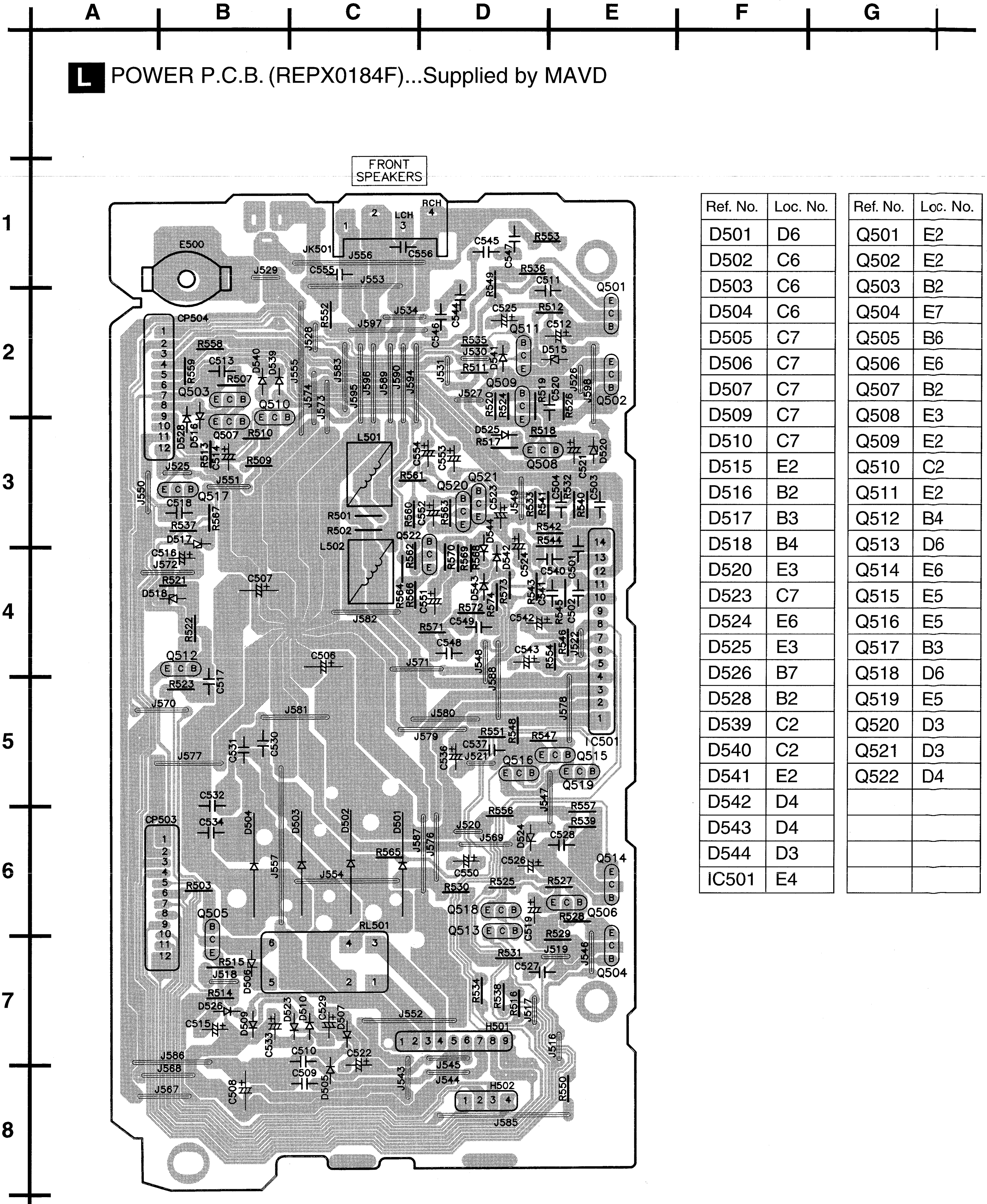


K DECK P.C.B. (REPX0157C)


A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
TP10
TP4
TP3
CS702
H600
CN601
CP602
TP11
TP12
TP2
CS701
Z602
Z601
CP601
TP5
IC601
IC602
IC603
IC604
W601

Ref. No.	Loc. No.
D1002	C5
D1003	C9
D1004	C9
D1006	C2
D1007	C2
IC601	C7
IC602	C2
IC603	C5
IC604	B8
Q1001	B9
Q1002	B9
Q1003	C9
Q1004	D8
Q1005	D8
Q1006	D9
Q1007	D9
Q1008	C3
Q1009	D2
Q1010	C2
Q1011	C2
Q1012	D1
Q1013	C3
Q1014	C4
Q1015	C2
Q602	D7
Q603	E3
Q604	E3
Q702	D7
Q703	E8
Q704	E8

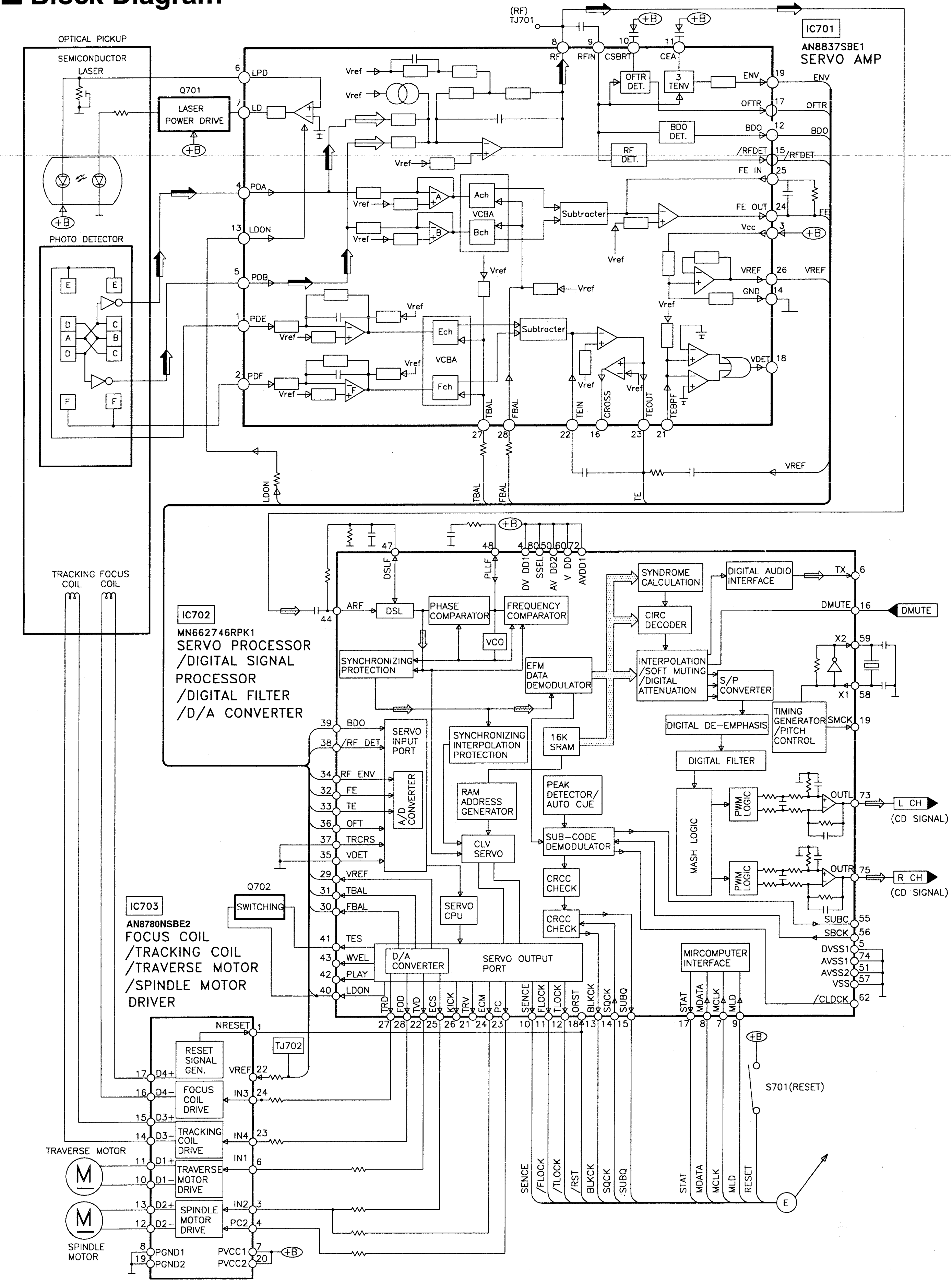
L POWER P.C.B. (REPX0184F)...Supplied by MAVD

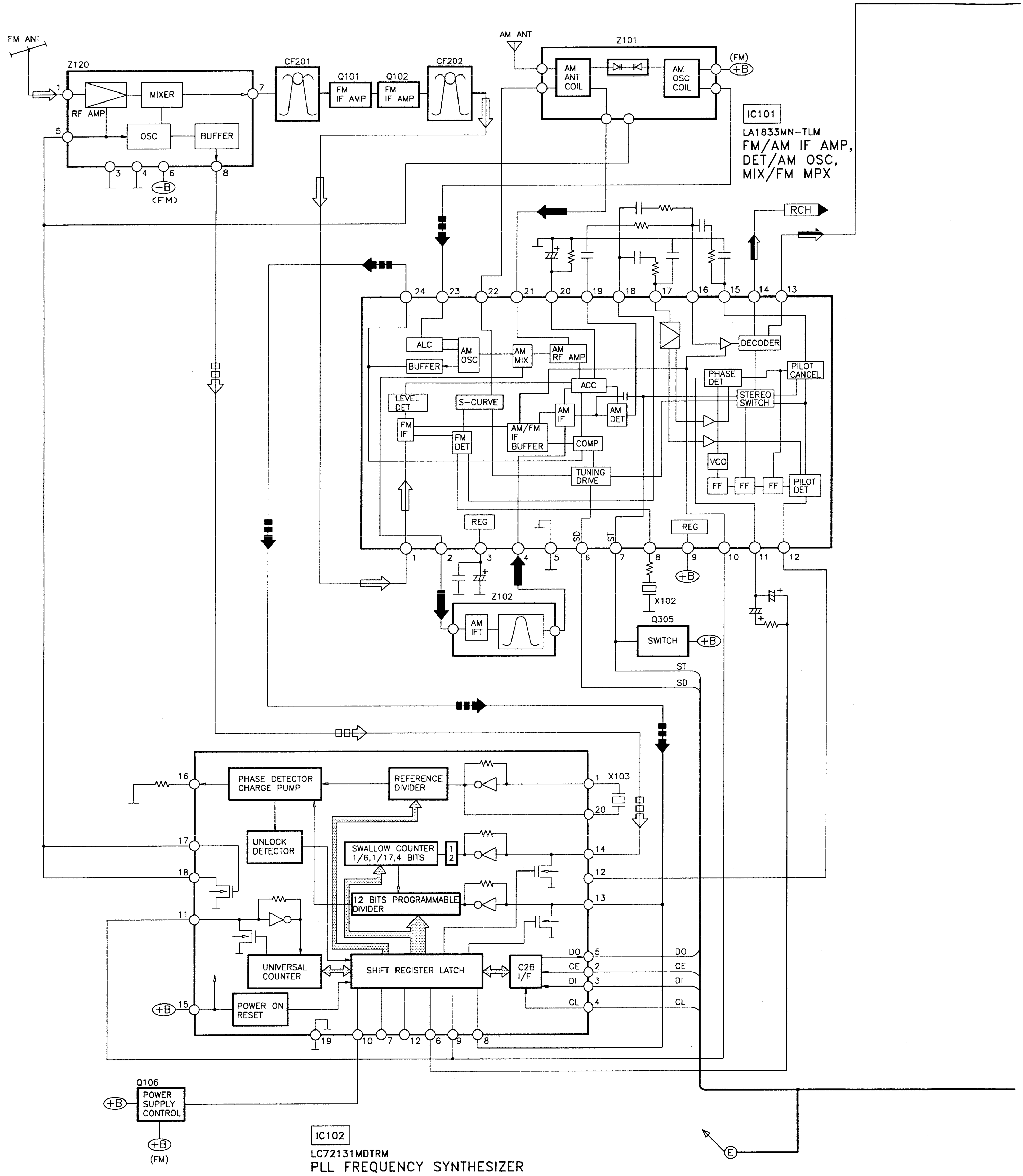

A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
FRONT SPEAKERS
LCH
RCH
1
2
3
4
JK501
E500
CP504
CP503
L501
L502
RL501
IC501
H501
H502
Q501
Q502
Q503
Q504
Q505
Q506
Q507
Q508
Q509
Q510
Q511
Q512
Q513
Q514
Q515
Q516
Q517
Q518
Q519
Q520
Q521
Q522
D501
D502
D503
D504
D505
D506
D507
D509
D510
D515
D516
D517
D518
D520
D523
D524
D525
D526
D528
D539
D540
D541
D542
D543
D544
R501
R502
C506
C507
C508
C545
C556
J556
J553
J597
J581
J582
J580
J577
J554
J552
J585

Ref. No.	Loc. No.
D501	D6
D502	C6
D503	C6
D504	C6
D505	C7
D506	C7
D507	C7
D509	C7
D510	C7
D515	E2
D516	B2
D517	B3
D518	B4
D520	E3
D523	C7
D524	E6
D525	E3
D526	B7
D528	B2
D539	C2
D540	C2
D541	E2
D542	D4
D543	D4
D544	D3
IC501	E4

Ref. No.	Loc. No.
Q501	E2
Q502	E2
Q503	B2
Q504	E7
Q505	B6
Q506	E6
Q507	B2
Q508	E3
Q509	E2
Q510	C2
Q511	E2
Q512	B4
Q513	D6
Q514	E6
Q515	E5
Q516	E5
Q517	B3
Q518	D6
Q519	E5
Q520	D3
Q521	D3
Q522	D4

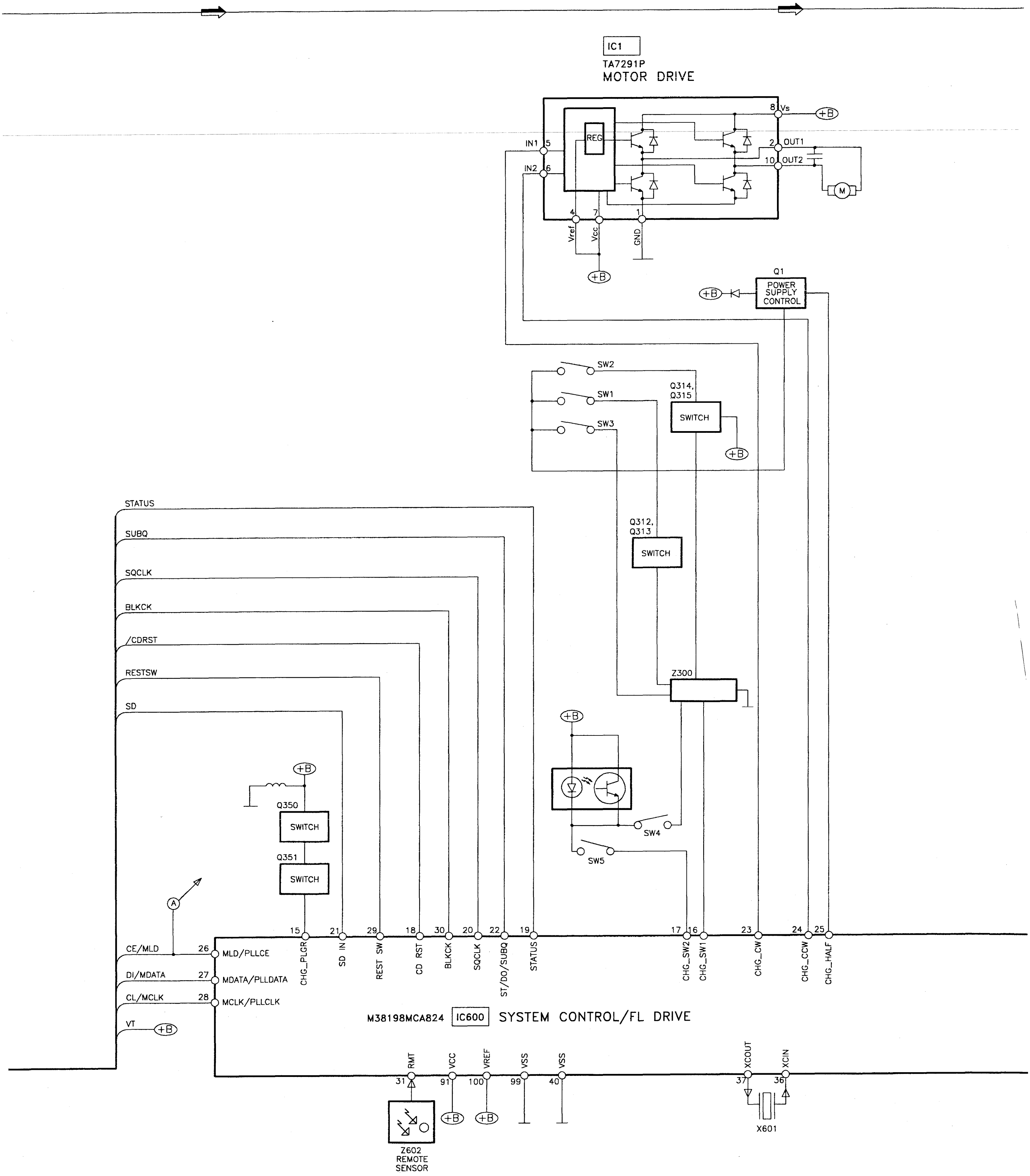
■ Block Diagram

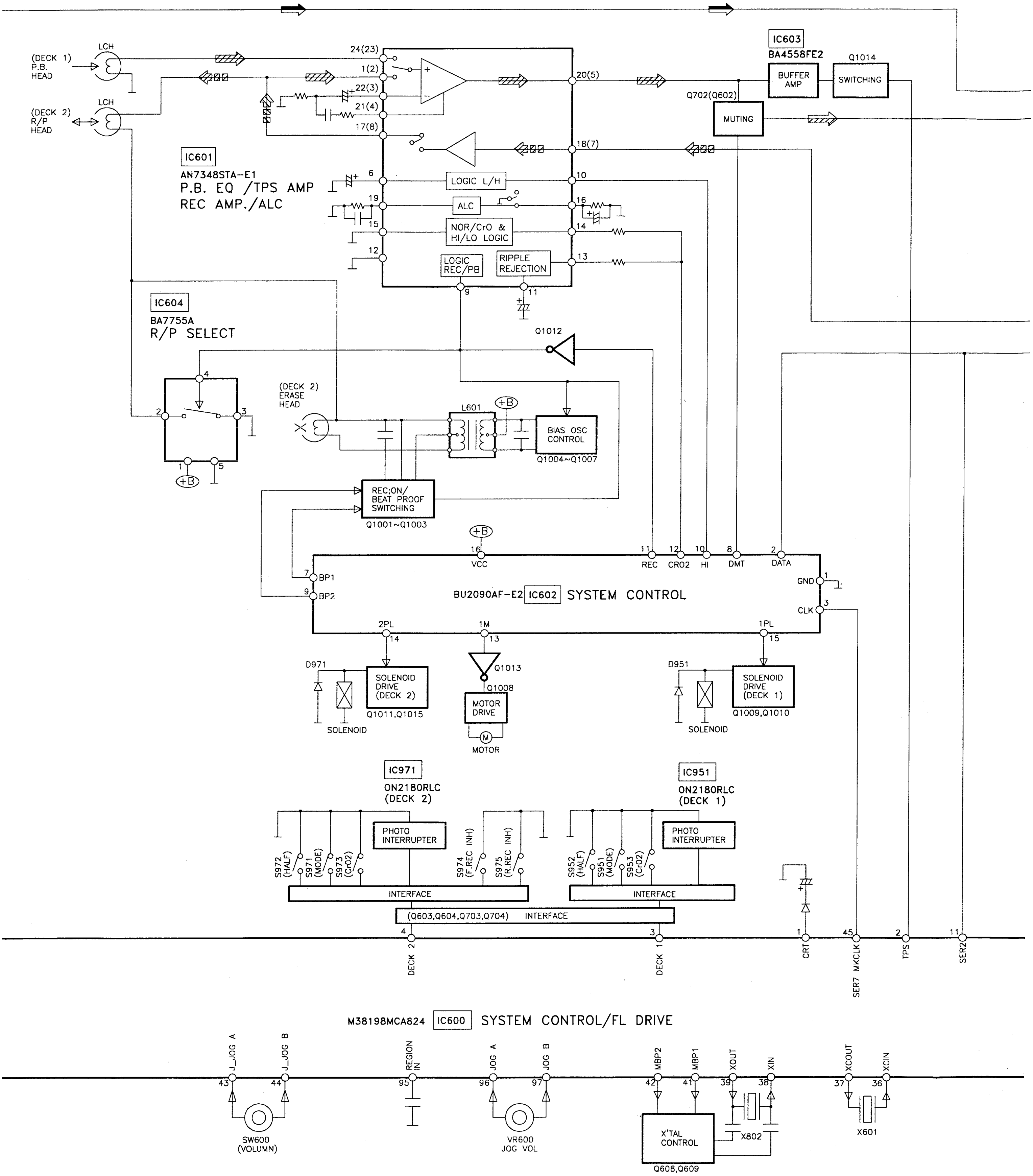

OPTICAL PICKUP
SEMICONDUCTOR LASER
PHOTO DETECTOR
Q701
LASER POWER DRIVE
(RF) TJ701
IC701
AN8837SBE1
SERVO AMP
LPD
LD
PDA
LDON
PDB
PDE
PDF
RF
RFIN
CSBRT
CEA
OFTR DET.
3 TENV
ENV
OFTR
BDO DET.
BDO
RF DET.
/RFDET
FE IN
FE OUT
Vcc
VREF
GND
VDET
Vref
Ach
Bch
VCBA
Ech
Fch
Subtracter
TBAL
FBAL
TEIN
CROSS
TEOUT
TEBPF
TE
TRACKING COIL
FOCUS COIL
IC702
MN662746RPK1
SERVO PROCESSOR /DIGITAL SIGNAL PROCESSOR /DIGITAL FILTER /D/A CONVERTER
DSLF
PLLF
DV DD1
SSEL
AV DD2
V DD
AVDD1
ARF
DSL
PHASE COMPARATOR
FREQUENCY COMPARATOR
VCO
SYNCHRONIZING PROTECTION
EFM DATA DEMODULATOR
SYNDROME CALCULATION
CIRC DECODER
INTERPOLATION /SOFT MUTING /DIGITAL ATTENUATION
DIGITAL AUDIO INTERFACE
TX
DMUTE
X2
X1
S/P CONVERTER
TIMING GENERATOR /PITCH CONTROL
SMCK
DIGITAL DE-EMPHASIS
DIGITAL FILTER
16K SRAM
SYNCHRONIZING INTERPOLATION PROTECTION
SERVO INPUT PORT
A/D CONVERTER
RAM ADDRESS GENERATOR
PEAK DETECTOR/ AUTO CUE
SUB-CODE DEMODULATOR
CLV SERVO
SERVO CPU
CRCC CHECK
MASH LOGIC
PWM LOGIC
OUTL
OUTR
L CH
R CH
(CD SIGNAL)
BDO
/RF DET
RF ENV
FE
TE
OFT
TRCRS
VDET
VREF
TBAL
FBAL
TES
WVEL
PLAY
LDON
D/A CONVERTER
SERVO OUTPUT PORT
TRD
FOD
TVD
ECS
KICK
TRV
ECM
PC
SENCE
/FLOCK
/TLOCK
/RST
BLKCK
SQCK
SUBQ
STAT
MDATA
MCLK
MLD
RESET
SUBC
SBCK
DVSS1
AVSS1
AVSS2
VSS
/CLDCK
MIRCOMPUTER INTERFACE
S701(RESET)
Q702
SWITCHING
TJ702
IC703
AN8780NSBE2
FOCUS COIL /TRACKING COIL /TRAVERSE MOTOR /SPINDLE MOTOR DRIVER
NRESET
RESET SIGNAL GEN.
VREF
FOCUS COIL DRIVE
TRACKING COIL DRIVE
TRAVERSE MOTOR DRIVE
SPINDLE MOTOR DRIVE
IN1
IN2
IN3
IN4
PC2
D1+
D1-
D2+
D2-
D3+
D3-
D4+
D4-
PGND1
PGND2
PVCC1
PVCC2
TRAVERSE MOTOR
SPINDLE MOTOR
+B
E

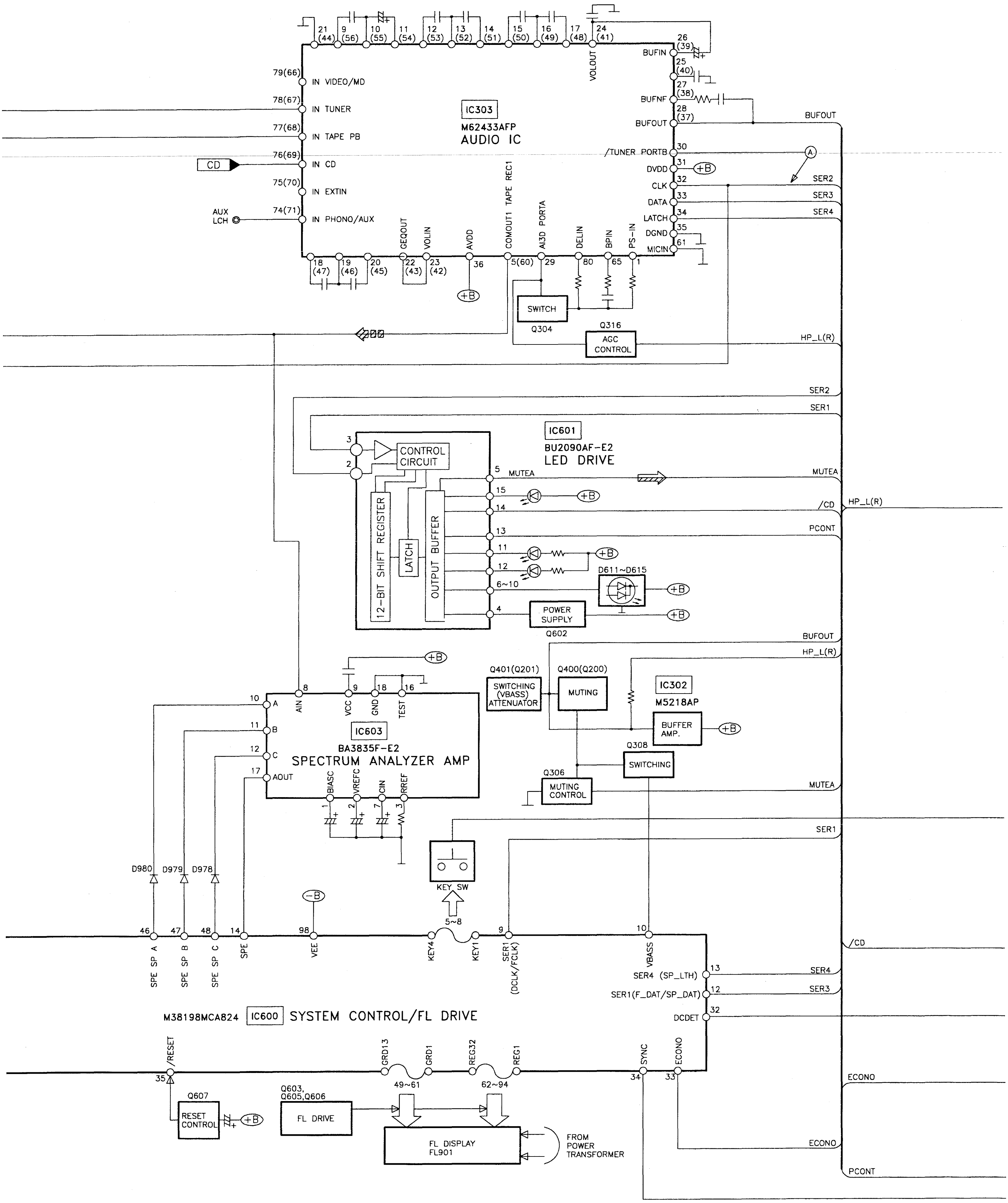

FM ANT
Z120
RF AMP
MIXER
OSC
BUFFER
(FM)
CF201
Q101
FM IF AMP
Q102
FM IF AMP
CF202
AM ANT
Z101
AM ANT COIL
AM OSC COIL
(FM)
ALC
AM OSC
AM MIX
AM RF AMP
BUFFER
AGC
LEVEL DET
S-CURVE
AM IF
AM DET
FM IF
FM DET
AM/FM IF BUFFER
COMP
TUNING DRIVE
DECODER
PHASE DET
PILOT CANCEL
STEREO SWITCH
VCO
FF
FF
FF
PILOT DET
REG
REG
SD
ST
RCH
Z102
AM IFT
X102
Q305
SWITCH
ST
SD
X103
PHASE DETECTOR CHARGE PUMP
REFERENCE DIVIDER
UNLOCK DETECTOR
SWALLOW COUNTER 1/6,1/17,4 BITS
12 BITS PROGRAMMABLE DIVIDER
UNIVERSAL COUNTER
SHIFT REGISTER LATCH
C2B I/F
POWER ON RESET
DO
CE
DI
CL
DO
CE
DI
CL
Q106
POWER SUPPLY CONTROL
(FM)
E

IC101
LA1833MN-TLM
FM/AM IF AMP, DET/AM OSC, MIX/FM MPX

IC102
LC72131MDTRM
PLL FREQUENCY SYNTHESIZER

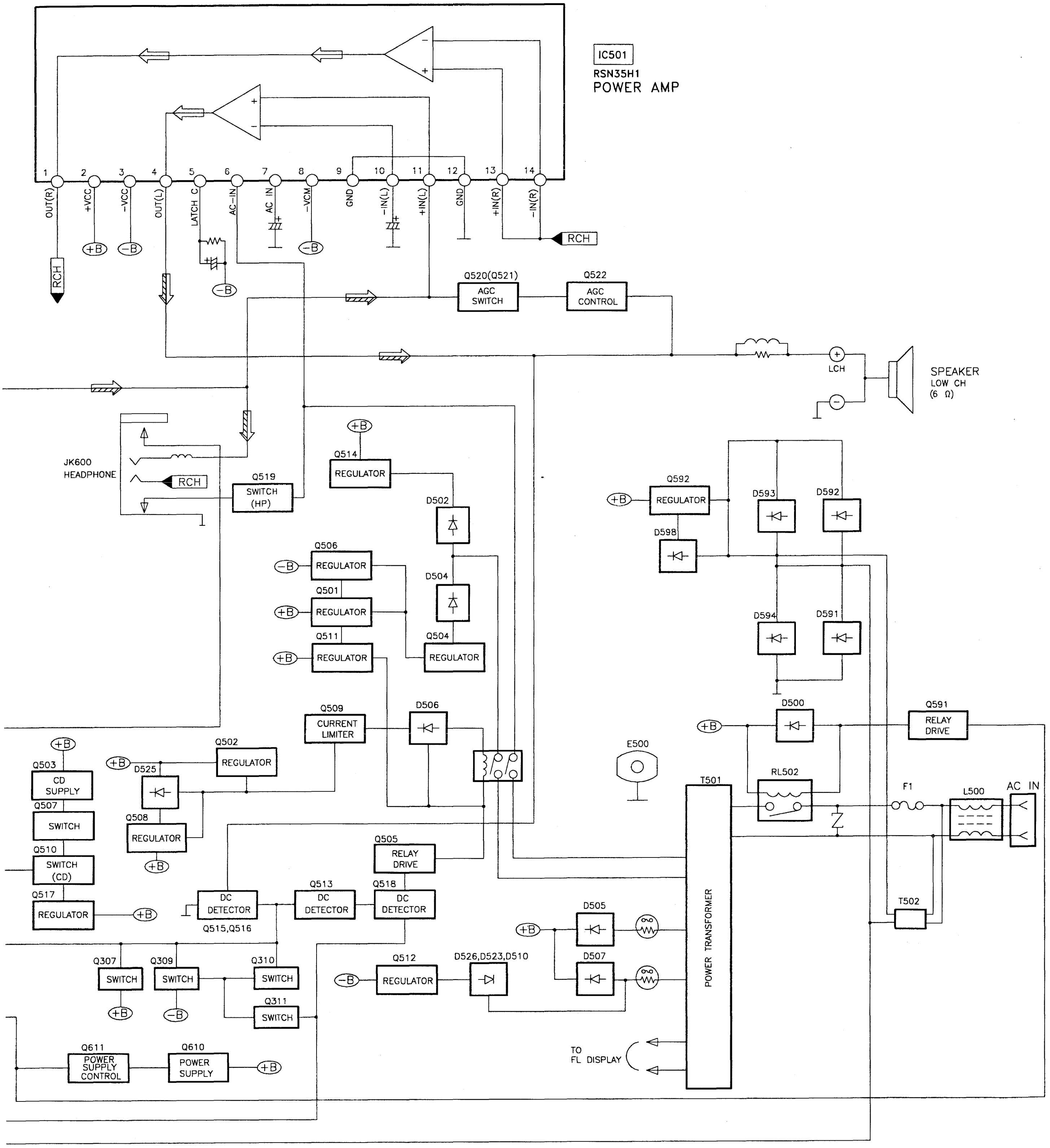

IC1
TA7291P
MOTOR DRIVE
REG
IN1 5
IN2 6
8 Vs
2 OUT1
10 OUT2
4 Vref
7 Vcc
1 GND
+B
M
Q1
POWER SUPPLY CONTROL
SW2
SW1
SW3
Q314, Q315
SWITCH
Q312, Q313
SWITCH
Z300
SW4
SW5
STATUS
SUBQ
SQCLK
BLKCK
/CDRST
RESTSW
SD
Q350
SWITCH
Q351
SWITCH
A
CE/MLD
DI/MDATA
CL/MCLK
VT
26 MLD/PLLCE
27 MDATA/PLLDATA
28 MCLK/PLLCLK
15 CHG_PLGR
21 SD IN
29 REST SW
18 CD RST
30 BLKCK
20 SQCLK
22 ST/DO/SUBQ
19 STATUS
17 CHG_SW2
16 CHG_SW1
23 CHG_CW
24 CHG_CCW
25 CHG_HALF
M38198MCA824
IC600
SYSTEM CONTROL/FL DRIVE
31 RMT
91 VCC
100 VREF
99 VSS
40 VSS
37 XCOUT
36 XCIN
X601
Z602
REMOTE SENSOR


(DECK 1)
P.B.
HEAD
LCH
(DECK 2)
R/P
HEAD
LCH
24(23)
1(2)
22(3)
21(4)
17(8)
20(5)
18(7)
IC601
AN7348STA-E1
P.B. EQ /TPS AMP
REC AMP./ALC
6
19
15
12
LOGIC L/H
ALC
NOR/CrO &
HI/LO LOGIC
LOGIC
REC/PB
RIPPLE
REJECTION
10
16
14
13
9
11
IC603
BA4558FE2
BUFFER
AMP
Q1014
SWITCHING
Q702(Q602)
MUTING
IC604
BA7755A
R/P SELECT
Q1012
(DECK 2)
ERASE
HEAD
L601
+B
BIAS OSC
CONTROL
Q1004~Q1007
REC;ON/
BEAT PROOF
SWITCHING
Q1001~Q1003
+B
16
VCC
11
REC
12
CRO2
10
HI
8
DMT
2
DATA
1
GND
3
CLK
7
BP1
9
BP2
BU2090AF-E2
IC602
SYSTEM CONTROL
2PL
14
1M
13
1PL
15
D971
SOLENOID
DRIVE
(DECK 2)
Q1011,Q1015
SOLENOID
Q1013
Q1008
MOTOR
DRIVE
M
MOTOR
D951
SOLENOID
DRIVE
(DECK 1)
Q1009,Q1010
SOLENOID
IC971
ON2180RLC
(DECK 2)
IC951
ON2180RLC
(DECK 1)
PHOTO
INTERRUPTER
S972 (HALF)
S971 (MODE)
S973 (CrO2)
S974 (F.REC INH)
S975 (R.REC INH)
PHOTO
INTERRUPTER
S952 (HALF)
S951 (MODE)
S953 (CrO2)
INTERFACE
INTERFACE
(Q603,Q604,Q703,Q704) INTERFACE
4
DECK 2
3
DECK 1
1
CRT
45
SER7 MKCLK
2
TPS
11
SER2
M38198MCA824
IC600
SYSTEM CONTROL/FL DRIVE
J_JOG A
43
J_JOG B
44
REGION IN
95
JOG A
96
JOG B
97
MBP2
42
MBP1
41
XOUT
39
XIN
38
XCOUT
37
XCIN
36
SW600
(VOLUMN)
VR600
JOG VOL
X'TAL
CONTROL
Q608,Q609
X802
X601

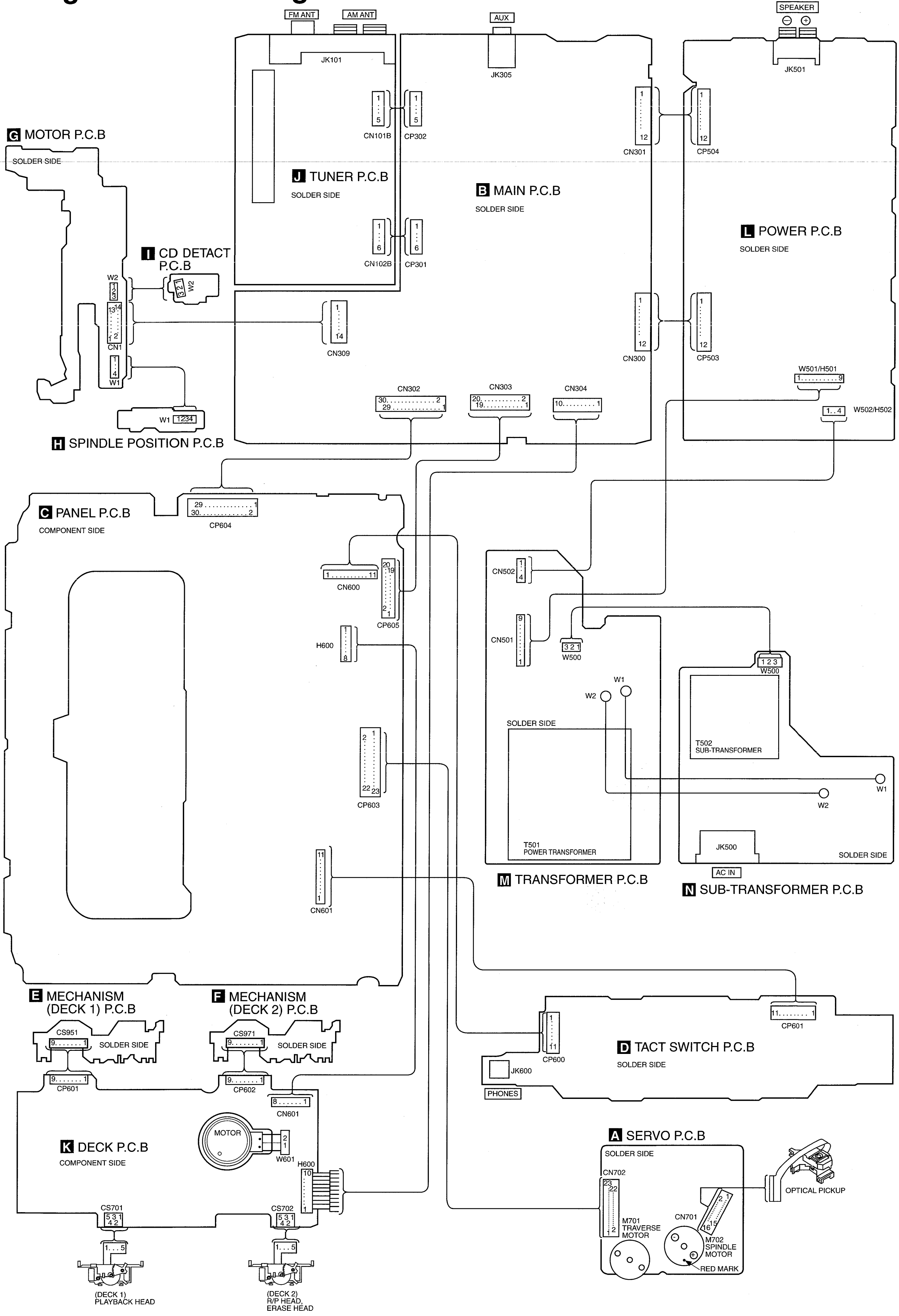

IC303
M62433AFP
AUDIO IC
21 (44)
9 (56)
10 (55)
11 (54)
12 (53)
13 (52)
14 (51)
15 (50)
16 (49)
17 (48)
24 (41)
VOLOUT
26 (39) BUFIN
25 (40)
27 (38) BUFNF
28 (37) BUFOUT
BUFOUT
30 /TUNER PORTB
A
31 DVDD +B
32 CLK
33 DATA
34 LATCH
35 DGND
61 MICIN
SER2
SER3
SER4
79(66) IN VIDEO/MD
78(67) IN TUNER
77(68) IN TAPE PB
76(69) IN CD
CD
75(70) IN EXTIN
74(71) IN PHONO/AUX
AUX LCH
GEQOUT
VOLIN
AVDD
COMOUT1 TAPE REC1
AI3D PORTA
DELIN
BPIN
PS-IN
18 (47)
19 (46)
20 (45)
22 (43)
23 (42)
36
5(60)
29
80
65
1
+B
SWITCH
Q304
Q316
AGC CONTROL
HP_L(R)
SER2
SER1
IC601
BU2090AF-E2
LED DRIVE
CONTROL CIRCUIT
12-BIT SHIFT REGISTER
LATCH
OUTPUT BUFFER
3
2
5 MUTEA
MUTEA
15
+B
14
/CD
HP_L(R)
13
PCONT
11
+B
12
D611~D615
6~10
+B
4
POWER SUPPLY
Q602
+B
BUFOUT
HP_L(R)
+B
Q401(Q201)
SWITCHING (VBASS) ATTENUATOR
Q400(Q200)
MUTING
IC302
M5218AP
BUFFER AMP.
+B
Q308
SWITCHING
Q306
MUTING CONTROL
MUTEA
IC603
BA3835F-E2
SPECTRUM ANALYZER AMP
10 A
11 B
12 C
17 AOUT
8 AIN
9 VCC
18 GND
16 TEST
1 BIASC
2 VREFC
7 CIN
3 RREF
SER1
KEY SW
D980
D979
D978
−B
5~8
46 SPE SP A
47 SPE SP B
48 SPE SP C
14 SPE
98 VEE
KEY4
KEY1
9 SER1 (DCLK/FCLK)
10 VBASS
/CD
13 SER4 (SP_LTH)
SER4
12 SER1(F_DAT/SP_DAT)
SER3
32 DCDET
M38198MCA824
IC600
SYSTEM CONTROL/FL DRIVE
35 /RESET
GRD13
GRD1
REG32
REG1
SYNC
ECONO
49~61
62~94
34
33
ECONO
Q607
RESET CONTROL
+B
Q603, Q605,Q606
FL DRIVE
FL DISPLAY FL901
FROM POWER TRANSFORMER
ECONO
PCONT

SIGNAL LINES

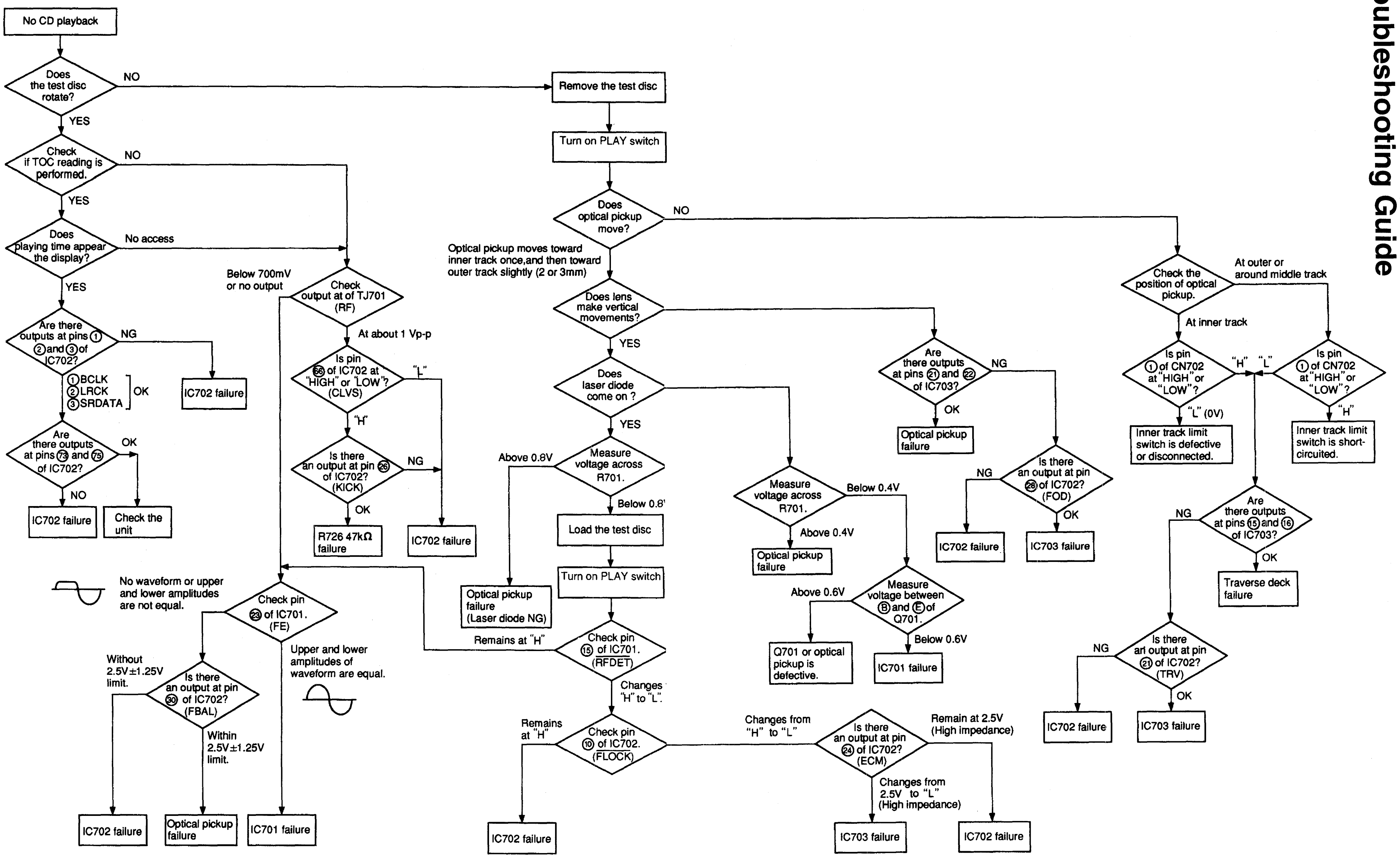
MAIN SIGNAL LINE	CD SIGNAL LINE	AM SIGNAL LINE	MIC SIGNAL LINE
FM OSC SIGNAL LINE	AM OSC SIGNAL LINE	FM & AM SIGNALS LINE	PLAYBACK SIGNAL LINE
FM SIGNAL LINE	RECORDING SIGNAL LINE		


IC501
RSN35H1
POWER AMP
1 OUT(R)
2 +VCC
3 −VCC
4 OUT(L)
5 LATCH C
6 AC−IN
7 AC IN
8 −VCM
9 GND
10 −IN(L)
11 +IN(L)
12 GND
13 +IN(R)
14 −IN(R)
+B
−B
RCH
Q520(Q521)
AGC SWITCH
Q522
AGC CONTROL
LCH
SPEAKER
LOW CH
(6 Ω)
JK600
HEADPHONE
Q519
SWITCH (HP)
Q514
REGULATOR
D502
Q506
REGULATOR
D504
Q501
REGULATOR
Q511
REGULATOR
Q504
REGULATOR
Q509
CURRENT LIMITER
D506
Q592
REGULATOR
D593
D592
D598
D594
D591
D500
Q591
RELAY DRIVE
E500
RL502
T501
F1
L500
AC IN
Q503
CD SUPPLY
Q507
SWITCH
Q510
SWITCH (CD)
Q517
REGULATOR
Q502
REGULATOR
D525
Q508
REGULATOR
Q505
RELAY DRIVE
DC DETECTOR
Q515,Q516
Q513
DC DETECTOR
Q518
DC DETECTOR
Q512
REGULATOR
D526,D523,D510
D505
D507
POWER TRANSFORMER
T502
Q307
SWITCH
Q309
SWITCH
Q310
SWITCH
Q311
SWITCH
Q611
POWER SUPPLY CONTROL
Q610
POWER SUPPLY
TO FL DISPLAY

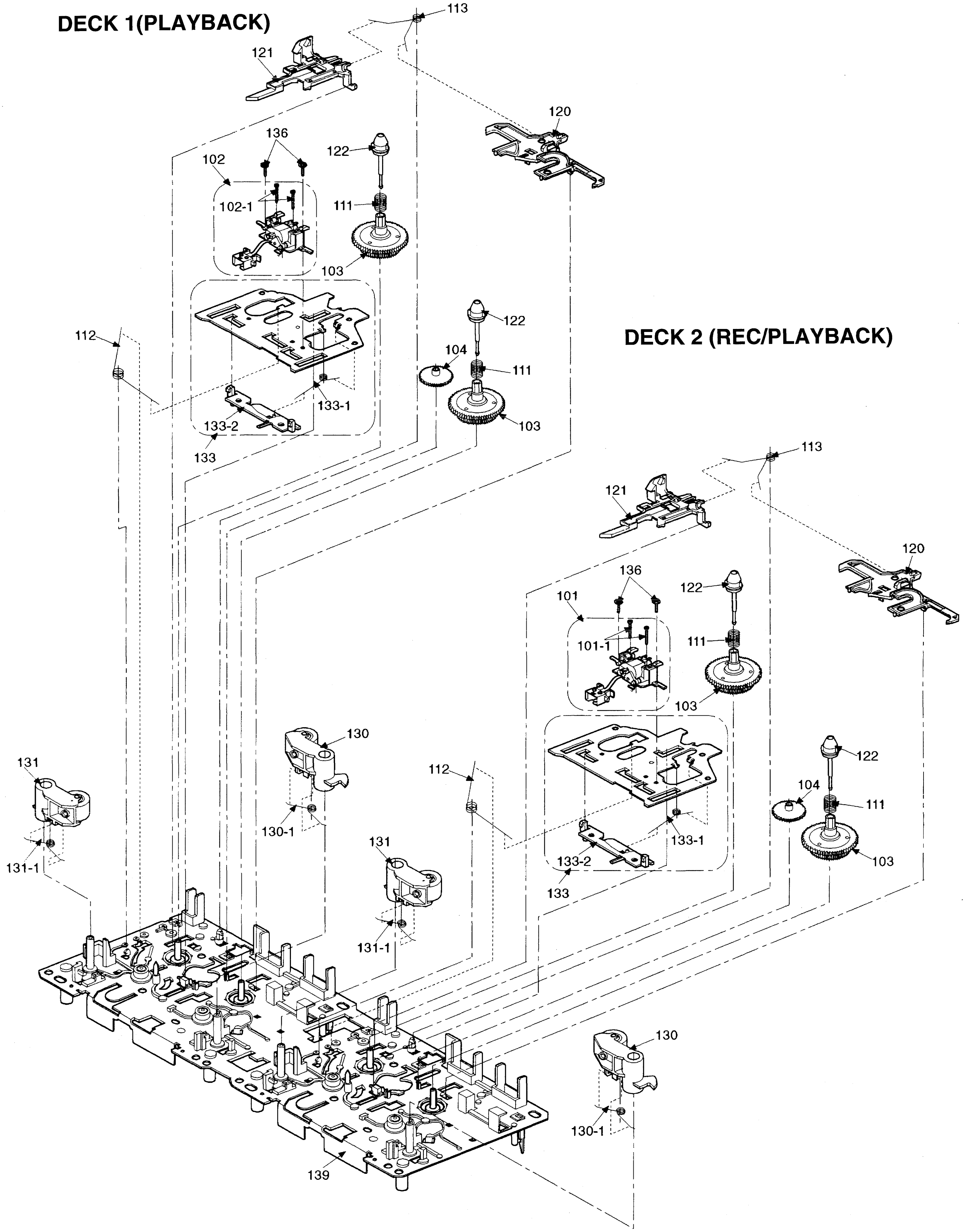
■ Wiring Connection Diagram


FM ANT
AM ANT
AUX
SPEAKER
⊖ ⊕
JK101
JK305
JK501
CN101B
CP302
CN301
CP504
G MOTOR P.C.B
SOLDER SIDE
J TUNER P.C.B
SOLDER SIDE
B MAIN P.C.B
SOLDER SIDE
L POWER P.C.B
SOLDER SIDE
I CD DETACT P.C.B
W2
CN102B
CP301
CN1
W1
CN309
CN300
CP503
W501/H501
W502/H502
CN302
CN303
CN304
H SPINDLE POSITION P.C.B
W1 1234
C PANEL P.C.B
COMPONENT SIDE
CP604
CN600
CP605
CN502
CN501
W500
H600
W1
W2
SOLDER SIDE
T502 SUB-TRANSFORMER
CP603
T501 POWER TRANSFORMER
JK500
AC IN
SOLDER SIDE
M TRANSFORMER P.C.B
N SUB-TRANSFORMER P.C.B
CN601
CP601
E MECHANISM (DECK 1) P.C.B
F MECHANISM (DECK 2) P.C.B
CS951
CS971
SOLDER SIDE
SOLDER SIDE
CP601
CP602
CN601
D TACT SWITCH P.C.B
SOLDER SIDE
CP600
JK600
PHONES
MOTOR
W601
H600
K DECK P.C.B
COMPONENT SIDE
A SERVO P.C.B
SOLDER SIDE
CN702
OPTICAL PICKUP
CN701
M701 TRAVERSE MOTOR
M702 SPINDLE MOTOR
RED MARK
CS701
CS702
(DECK 1) PLAYBACK HEAD
(DECK 2) R/P HEAD, ERASE HEAD

■ Troubleshooting Guide

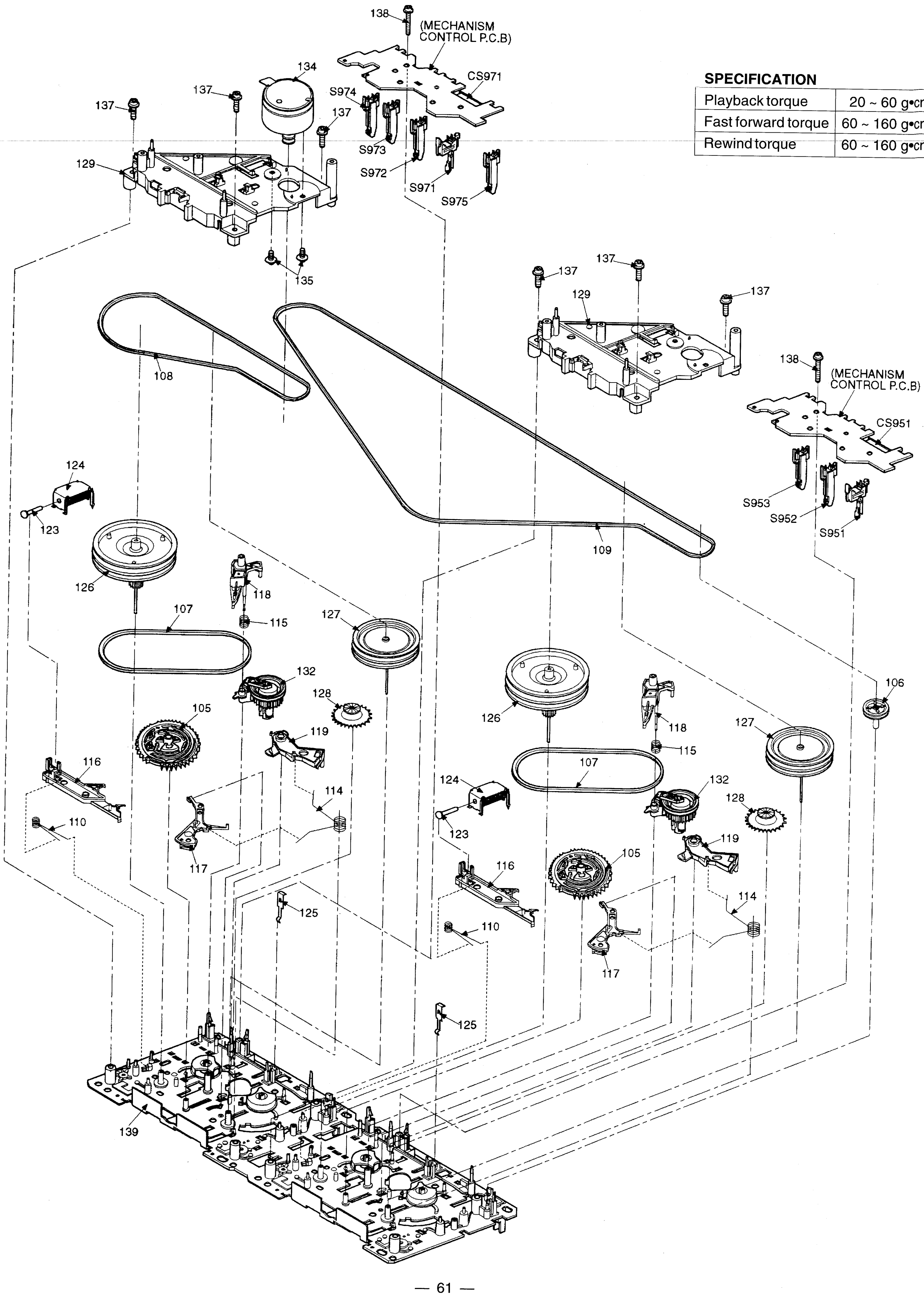

No CD playback
Does the test disc rotate?
NO
YES
Remove the test disc
Turn on PLAY switch
Check if TOC reading is performed.
NO
YES
Does playing time appear the display?
No access
YES
Are there outputs at pins ① ② and ③ of IC702?
NG
IC702 failure
①BCLK
②LRCK
③SRDATA
OK
Are there outputs at pins ㊸ and ㊺ of IC702?
OK
NO
IC702 failure
Check the unit
Below 700mV or no output
Check output at of TJ701 (RF)
At about 1 Vp-p
Is pin ㊻ of IC702 at "HIGH" or "LOW"? (CLVS)
"L"
"H"
Is there an output at pin ㉖ of IC702? (KICK)
NG
OK
R726 47kΩ failure
IC702 failure
No waveform or upper and lower amplitudes are not equal.
Check pin ㉓ of IC701. (FE)
Upper and lower amplitudes of waveform are equal.
Without 2.5V±1.25V limit.
Is there an output at pin ㉚ of IC702? (FBAL)
Within 2.5V±1.25V limit.
IC702 failure
Optical pickup failure
IC701 failure
Does optical pickup move?
NO
Optical pickup moves toward inner track once,and then toward outer track slightly (2 or 3mm)
Does lens make vertical movements?
YES
Does laser diode come on ?
YES
Measure voltage across R701.
Above 0.8V
Below 0.8'
Optical pickup failure (Laser diode NG)
Load the test disc
Turn on PLAY switch
Remains at "H"
Check pin ⑮ of IC701. (RFDET)
Changes "H" to "L".
Remains at "H"
Check pin ⑩ of IC702. (FLOCK)
IC702 failure
Changes from "H" to "L"
Is there an output at pin ㉔ of IC702? (ECM)
Remain at 2.5V (High impedance)
Changes from 2.5V to "L" (High impedance)
IC703 failure
IC702 failure
Measure voltage across R701.
Below 0.4V
Above 0.4V
Optical pickup failure
Measure voltage between Ⓑ and Ⓔ of Q701.
Above 0.6V
Below 0.6V
Q701 or optical pickup is defective.
IC701 failure
Are there outputs at pins ㉑ and ㉒ of IC703?
NG
OK
Optical pickup failure
Is there an output at pin ㉘ of IC702? (FOD)
NG
OK
IC702 failure
IC703 failure
Check the position of optical pickup.
At outer or around middle track
At inner track
Is pin ① of CN702 at "HIGH" or "LOW"?
"L" (0V)
Inner track limit switch is defective or disconnected.
"H"
"L"
Is pin ① of CN702 at "HIGH" or "LOW"?
"H"
Inner track limit switch is short-circuited.
Are there outputs at pins ⑮ and ⑯ of IC703?
NG
OK
Traverse deck failure
Is there an output at pin ㉑ of IC702? (TRV)
NG
OK
IC702 failure
IC703 failure

■ Mechanism Parts Location (RAA3408)


DECK 1(PLAYBACK)
113
121
120
136
102
122
102-1
111
103
112
122
104
111
133-1
133-2
103
133
DECK 2 (REC/PLAYBACK)
113
121
120
136
101
122
101-1
111
103
130
131
112
122
104
111
130-1
131
133-1
133-2
103
131-1
133
131-1
130
130-1
139

SPECIFICATION

Playback torque	20 ~ 60 g•cm
Fast forward torque	60 ~ 160 g•cm
Rewind torque	60 ~ 160 g•cm


138
(MECHANISM CONTROL P.C.B)
CS971
134
137
137
S974
137
S973
129
S972
S971
S975
135
137
137
137
129
137
138
(MECHANISM CONTROL P.C.B)
108
CS951
124
S953
S952
S951
123
109
126
118
107
115
127
106
132
128
105
126
118
119
127
116
115
107
114
124
132
128
110
123
119
117
116
105
114
125
110
117
125
139

■ Mechanism Parts List

Notes : [M] in Remarks column indicates parts supplied by **MESA**.

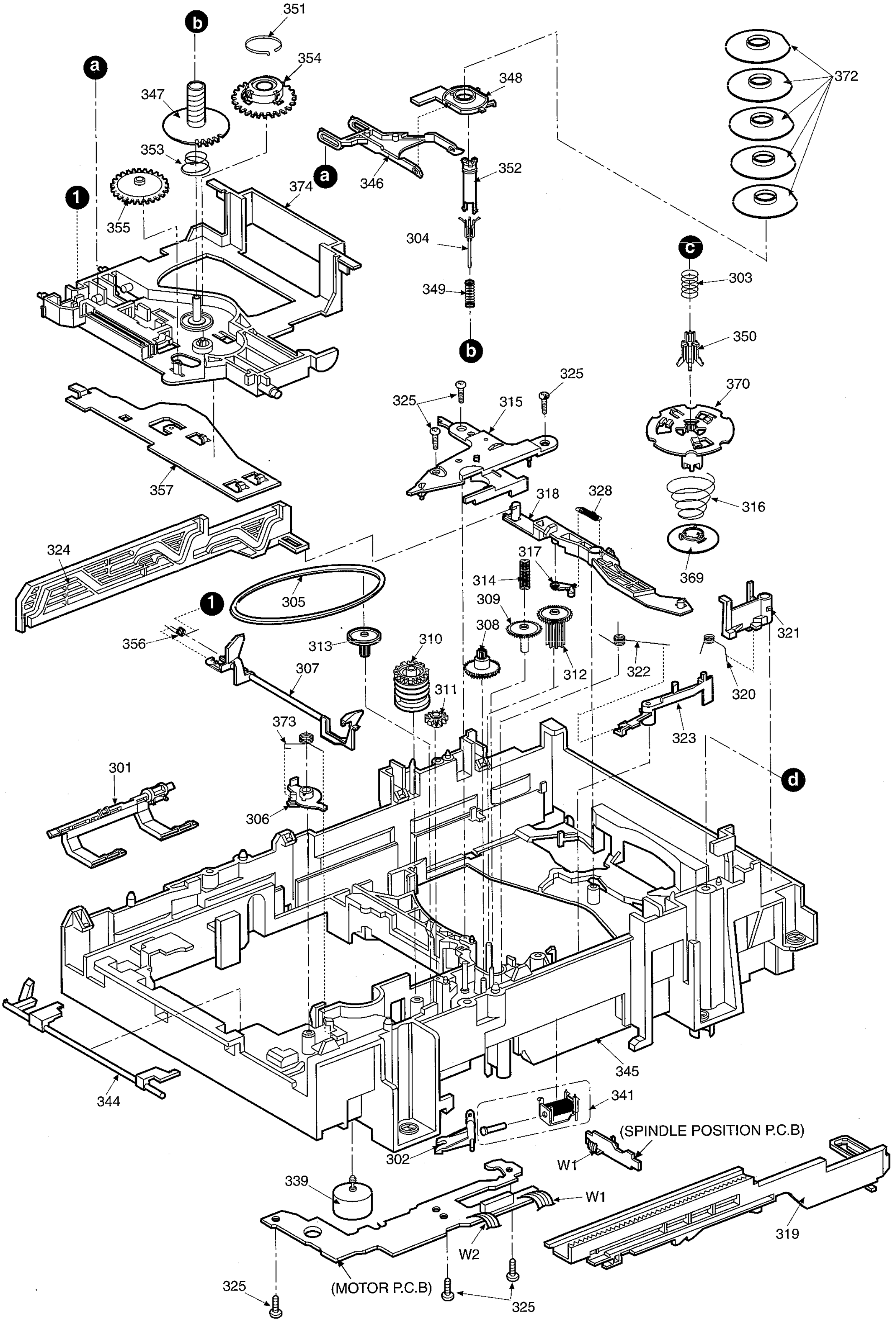
Ref No.	Part No.	Part Name & Description	Remarks
		CASSETTE DECK	
101	RED0050	R/P HEAD BLOCK ASS'Y	[M]
101-1	RHE5152ZB	SCREW	[M]
102	RED0051	P/B HEAD BLOCK ASS'Y	[M]
102-1	RHE5152ZB	SCREW	[M]
103	RDG0300	REEL TABLE BASE	[M]
104	RDG0301	GEAR	[M]
105	RDK0026	GEAR	[M]
106	RDR0029	RELAY PULLY	[M]
107	RDV0033-1	BELT	[M]
108	RDV0034	BELT	[M]
109	RDV0057	BELT	[M]
110	RMB0312	SPRING	[M]
111	RMB0400	REEL TABLE SPRING	[M]
112	RMB0403	SPRING	[M]
113	RMB0404	SPRING	[M]
114	RMB0406	SPRING	[M]
115	RMB0408	SPRING	[M]
116	RML0370	LEVER	[M]
117	RML0371	LEVER	[M]
118	RML0372	ARM	[M]
119	RML0374	LEVER	[M]
120	RMM0131	LEVER	[M]
121	RMM0133	LEVER	[M]
122	RMQ0519	REEL TABLE HEAD	[M]
123	RMS0398-1	SHAFT	[M]
124	RSJ0003	PLUNGER	[M]
125	RUS609ZC	SPRING	[M]
126	RXF0049	FLYWHEEL ASS'Y	[M]
127	RXF0050	FLYWHEEL ASS'Y	[M]
128	RXG0040	GEAR	[M]
129	RMK0283	PLATE	[M]
130	RXL0124	PINCH ROLLER ASS'Y	[M]
130-1	RMB0401	SPRING	[M]
131	RXL0125	PINCH ROLLER ASS'Y	[M]
131-1	RMB0402	SPRING	[M]
132	RXL0126	GEAR	[M]
133	RXQ0412	ROD	[M]
133-1	RMB0405	SPRING	[M]
133-2	RMM0132	ROD	[M]
134	REM0070	MOTOR ASS'Y	[M]
135	RHD26022	SCREW	[M]
136	XTW2+5L	SCREW	[M]
137	XTW26+10S	SCREW	[M]
138	XYC2+JF17	SCREW	[M]
139	RFKJXED70-K	CHASSIS ASS'Y	[M]

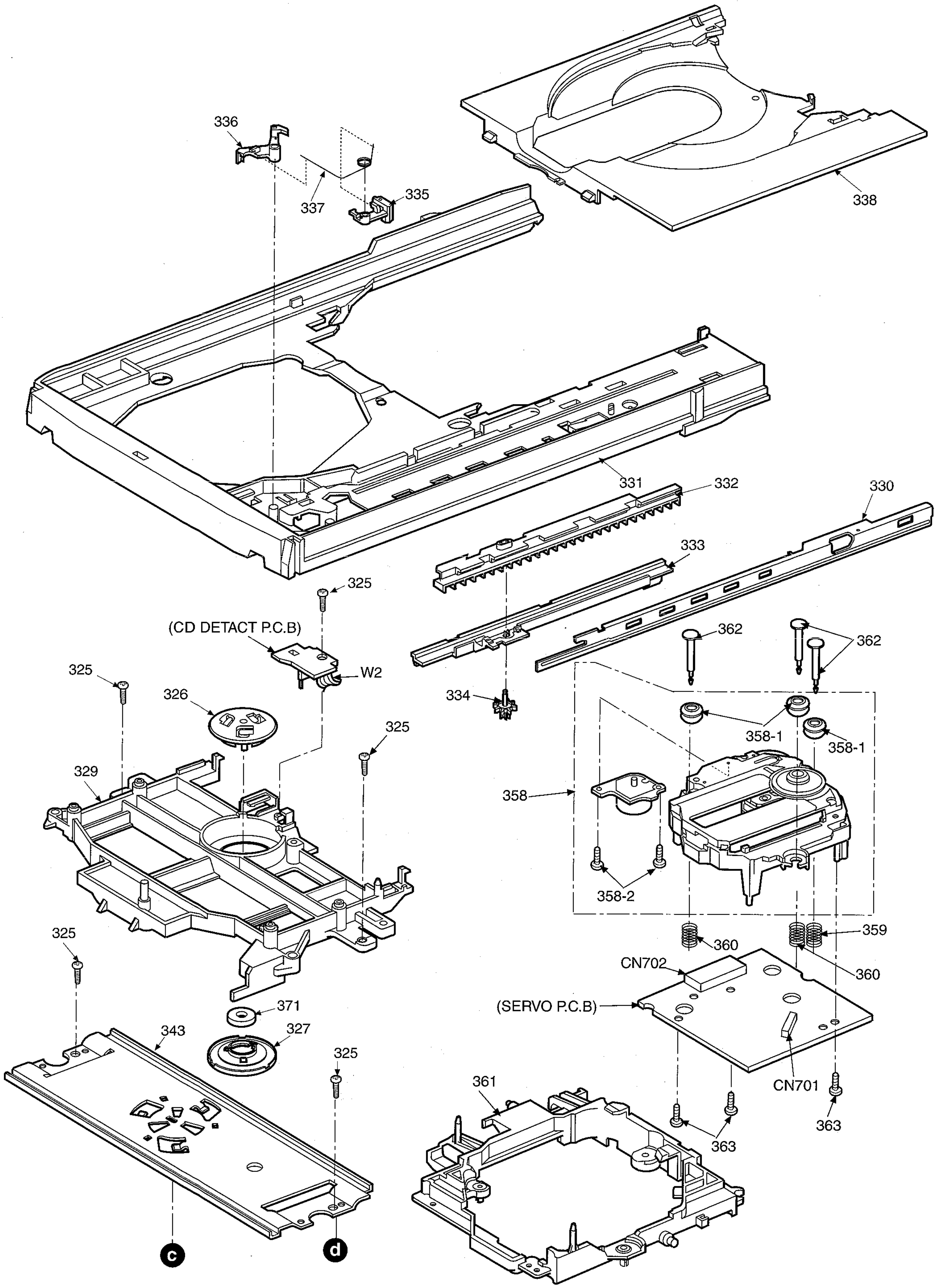
■ Loading Mechanism Parts List

Notes : [M] in Remarks column indicates parts supplied by **MESA**.

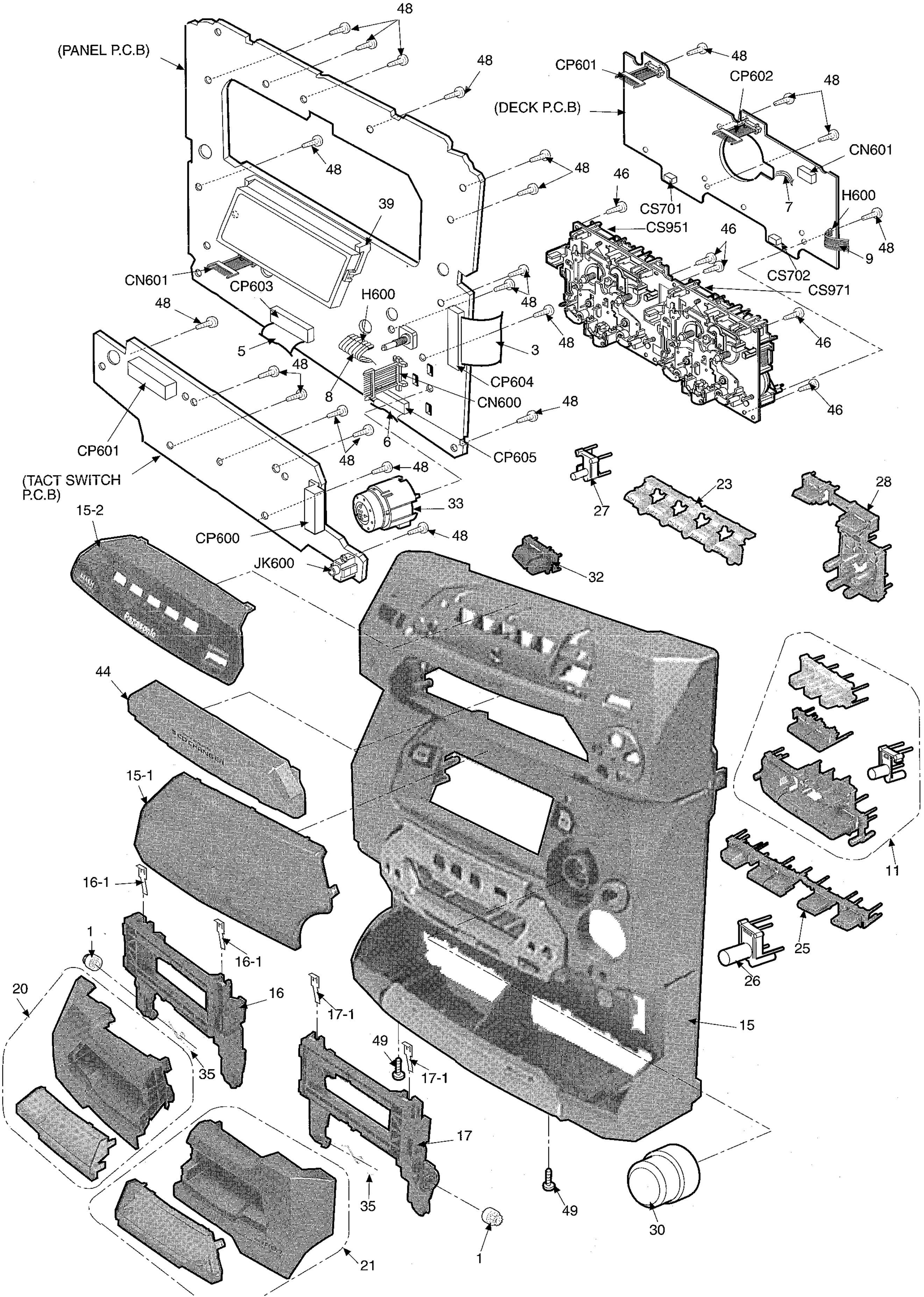
Ref No.	Part No.	Part Name & Description	Remarks
		TRAVERSE DECK	
301	RML0517	TIMING LEVER	[M]
302	RML0516	PLUNGER LEVER	[M]
303	RMB0551	UPPER SPINDLE SPRING	[M]
304	RMQ0744	LOWER HOOK	[M]
305	RDV0056	BELT	[M]
306	RML0525	FRONT LOCK LEVER	[M]
307	RML0526	DISC LEVER	[M]
308	RDG0424	DRIVE GEAR	[M]
309	RDG0425	CHANGE GEAR	[M]
310	RDG0427	TRV CAM GEAR	[M]
311	RDG0428	TRV RELAY GEAR	[M]
312	RDG0426	UP/DOWN GEAR	[M]
313	RDG0429	PULLEY GEAR	[M]
314	RMB0549	CHANGE GEAR SPRING	[M]
315	RMQ0748	PITCH PLATE	[M]
316	RMB0553	PUSH SPRING	[M]
317	RML0530	ASSIST LEVER	[M]
318	RML0518	CONNECTION LEVER	[M]
319	RMM0201	SLIDE PLATE 1	[M]
320	RME0258	REAR LOCK SPRING	[M]
321	RML0521	REAR LOCK	[M]
322	RME0257	TRAY LOCK LEVER SPRI	[M]
323	RML0520	TRAY LOCK	[M]
324	RMM0202	SLIDE PLATE 2	[M]
325	XTB3+10J	SCREW	[M]
326	RMR0334	FIXED PLATE	[M]
327	RMR0624-W2	CLAMPER	[M]
328	RMB0561	ASSIST LEVER SPRING	[M]
329	RMR1121-K	MECHA COVER	[M]
330	RMA1110-2	TRAY ANGLE	[M]
331	RMR1122-H1	TRAY BASE	[M]
332	RMM0204	CARRIER	[M]
333	RMM0203	DRIVE RACK	[M]
334	RDG0432	SPEED UP GEAR	[M]
335	RML0524	SLIDE LOCK	[M]
336	RML0523	CARRIER LOCK	[M]
337	RME0260-1	SLIDE LOCK SPRING	[M]
338	RMR1123-H	TRAY	[M]
339	RXQ0595	MOTOR SUB A”Y	[M]
341	RSJ0003	SOLENOLD ASS'Y	[M]
343	RMA1106	UPPER PLATE	[M]
344	RML0519	8CD LEVER	[M]
345	RFKNAAK27GCS	MECHA BASE ASS'Y	[M]
346	RML0522	TURNING STOPPER	[M]
347	RMQ0745	LOWER SPINDLE	[M]
348	RMQ0746	UP/DOWN BASE	[M]
349	RMB0550	LOWER SPINDLE SPRING	[M]
350	RMQ0747	UPPER HOOK	[M]
351	RME0263	CLICK SPRING	[M]
352	RMQ0743	SPINDLE SHAFT	[M]
353	RMB0552	CUSHION SPRING	[M]
354	RDG0430	RELAY GEAR 'A'	[M]
355	RDG0431	RELAY GEAR 'B'	[M]
356	RME0262	DISK LEVER SP.	[M]
357	RMA1105	SUPPORT PLATE	[M]
358	RAE0152Z-M	TRV	[M]
358-1	SHGD113-1	FLOATING CUSHION	[M]
358-2	SNSD38	TRV MOTOR ASS'Y SCRE	[M]
359	RME0142	FLOATING SPRING A	[M]
360	RME0109	FLOATING SPRING B	[M]
361	RMR1124-K1	TRV CHASSIS	[M]
362	RMS0632	TRV PIN	[M]
363	XTN2+6G	PCB SCREW	[M]
369	RMX0141	PUSH SPACER	[M]
370	RMQ0749	UPPER SPINDLE	[M]
371	RHM0001	MAGNET	[M]
372	RMX0140	DISC SPACER	[M]
373	RME0261	FRONT LOCK SPRING	[M]
374	RMQ0742	SPINDLE BASE	[M]

■ CD Loading Unit Parts Location (RD-DAC026-S)


351
b
354
a
348
372
347
353
346
352
374
a
1
355
304
c
303
349
350
b
325
370
325
315
318
328
316
357
324
317
314
369
305
309
1
308
321
356
313
310
312
322
307
311
320
373
323
d
301
306
345
344
341
(SPINDLE POSITION P.C.B)
302
W1
339
W1
319
W2
325
(MOTOR P.C.B)
325


(CD DETACT P.C.B)
W2
358-1
358-1
358-1
358-2
CN702
(SERVO P.C.B)
CN701
c
d

■ Cabinet Parts Location


48
(PANEL P.C.B)
48
CP601
48
CP602
48
(DECK P.C.B)
CN601
48
48
46
CS701
7
H600
39
CS951
46
48
9
CS702
CS971
CN601
CP603
48
H600
48
5
3
48
46
48
CP604
8
CN600
46
48
6
CP601
48
CP605
(TACT SWITCH
P.C.B)
48
15-2
33
27
23
28
CP600
48
JK600
32
44
15-1
11
16-1
25
1
16-1
26
20
16
17-1
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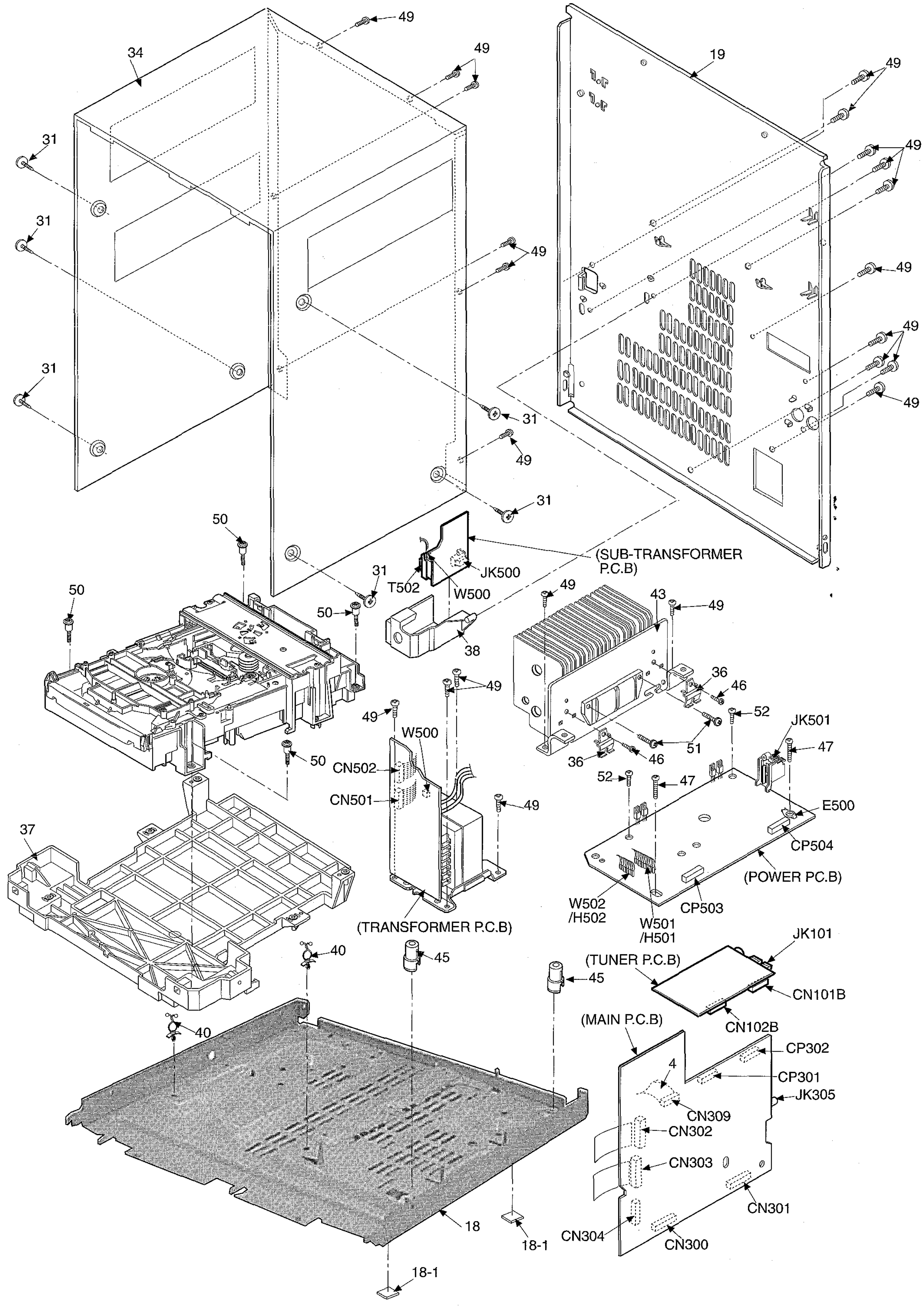
49
35
17-1
17
35
49
30
1
21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50
(SUB-TRANSFORMER
P.C.B)
50
31
JK500
T502
W500
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43
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52
JK501
W500
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CN502
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CN501
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E500
37
CP504
(POWER PC.B)
W502
/H502
CP503
W501
/H501
(TRANSFORMER P.C.B)
JK101
40
45
(TUNER P.C.B)
45
CN101B
40
(MAIN P.C.B)
CN102B
CP302
4
CP301
JK305
CN309
CN302
CN303
CN301
18
18-1
CN304
CN300
18-1

Replacement Parts List

Notes: * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low noise (resistors), etc are used.
When replacing any of these components, be sure to use only manufacturer's specified parts shown in the parts list .
* The parenthesized indications in the Remarks columns specify the areas or colour. (Refer to the cover page for area or colour)
Parts without these indications can be used for all areas.
* [M] indicates in the Remarks columns indicates parts supplied by **MESA.**
* [D] indicates in the Remarks columns indicates parts supplied by **MAVD.**
* Warning : This product uses a laser diode. Refer to caution statements on page 3.
ACHTUNG : • Die Lasereinheit nicht zerlegen.
• Die Lasereinheit darf nur gegen eine vom Hertsteller spezifizierte Einheit ausgetauscht werden.

Ref No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	RDG0129-1	DAMPER GEAR	[M]
3	REEX0054	26P FFC WIRE	[M]
4	REEX0055	14P FFC WIRE	[M]
5	REEX0056	23P WIRE	[M]
6	REEX0065	20P FFC WIRE (PAN	[M]
7	RWJ0102065CK	WIRE	[M]
8	RWJ0208155RX	WIRE 8P	[M]
9	RWJ8010160RX	10P WIRE	[M]
11	RYQX0024-S	CONTROL BUTT. UNIT	[M]
15	RFKGAAK17EBK	FRONT PANEL ASS'Y	[D]
15-1	RKWX0129-Q	FL WINDOW	[M]
15-2	RGKX0035-K	CD ORNAMENT	[M]
16	RFKLACH330AK	C. HOLDER ASS'Y(L)	[M]
16-1	RUS757ZAA	CASS HALF SPRING	[M]
17	RFKLACH330BK	C. HOLDER ASS'Y(R)	[M]
17-1	RUS757ZAA	CASS HALF SPRING	[M]
18	RFKJAAK17PCK	BOTT. CHASSIS ASS'Y	[M]
18-1	RKA0059-K	LEG RUBBER	[M]
19	RGRX0013J-A	REAR PANEL	[D]EG E
19	RGRX0013J-B	REAR PANEL	[D]EB
20	RYFX0073-K	CASS LID UNIT (L)	[M]
21	RYFX0074-K	CASS LID UNIT (R)	[M]
23	RGUX0303-Q	DISC BUTTONS	[M]
25	RGUX0312-1S	DECK BUTTON	[M]
26	RGUX0304-Q	AI EQ BUTTON	[M]
27	RGUX0305-Q	TIMER BUTTON	[M]
28	RGUX0313-1S	EJECT BUTTON	[M]
30	RGWX0044-1S	VOLUME KNOB	[M]
31	RHD03001-K	SCREW (TRANS)	[M]
32	RGLX0017-Q	STAND BY LIGHT	[M]
33	RYQX0018-1S	JOY/JOG UNIT	[M]
34	RKMX0046-K	TOP CABINET (BENT)	[M]
35	RMB0446	CASS OPEN SPRING	[M]
36	RMC0158-S	TRANSISTOR HOLDER	[M]
37	RMKX0031	CD CHASSIS	[M]
38	RMNX0023	SUB TRANS HOLDER	[M]
39	RMNX0024	FL HOLDER	[M]
40	RMRX0026-W	WIRE CLAMPER	[M]
43	RXX0193	HEAT SINK	[M]
44	RGKX0040-1S	CD LID	[M]
45	SHE187-4	SPACER (TRANS)	[M]
46	XTB3+10JFZ	SCREW	[M]
47	XTB3+20J	SCREW	[M]
48	XTBS26+10J	SCREW	[M]
49	XTBS3+8JFZ1	SCREW	[M]
50	XTW3+12T	SCREW	[M]
51	XTW3+15T	SCREW	[M]
52	XTB3+10J	SCREW	[M]
		INTEGRATED CIRCUITS	
IC1	TA7291P	IC, DRIVE	[M]
IC101	LA1833MN-TLM	IC, IF & MPX	[M]
IC102	LC72131MDTRM	IC, PLL	[M]
IC302	M5218AP	IC, BUFFER AMP	[M]
IC303	M62433AFP	IC, AUDIO	[M]
IC501	RSN35H1	IC, HIC	[M]⚠
IC600	M38198MCA824	IC, MICRO-P	[M]
IC601	AN7348STA-E1	IC, TAPE PB	[M]
IC601	BU2090AF-E2	IC, I/O EXPANDER	[M]
IC602	BU2090AF-E2	IC, I/O EXPANDER	[M]
IC603	BA3835F-E2	IC, SPECTRUM	[M]
IC603	BA4558FE2	IC,	[M]
IC604	BA7755A	IC, SW	[M]
IC701	AN8837SBE1	IC, HEAD AMP	[M]
IC702	MN662746RPK1	IC, LSI	[M]
IC703	AN8780NSBE2	IC	[M]
IC951	0N2180RLC	IC, PHOTO INTERUPTOR	[M]
IC971	0N2180RLC	IC, PHOTO INTERUPTOR	[M]
		TRANSISTORS	
Q1	RVTDTC143EST	TRANSISTOR	[M]
Q101	2SC2787LTA	TRANSISTOR	[M]
Q102	2SC2787LTA	TRANSISTOR	[M]
Q106	RVTDTA114EST	TRANSISTOR	[M]
Q200	2SD2144STA	TRANSISTOR	[M]
Q201	KTC3199GRTA	TRANSISTOR	[M]
Q304	2SD1450STA	TRANSISTOR	[M]
Q305	KRC109MTA	TRANSISTOR	[M]
Q306	KRA102MTA	TRANSISTOR	[M]
Q307	KRC111MTA	TRANSISTOR	[M]
Q308	KRA102MTA	TRANSISTOR	[M]
Q309	2SC2785FTA	TRANSISTOR	[M]
Q310	2SC2785FTA	TRANSISTOR	[M]
Q311	2SC2785FTA	TRANSISTOR	[M]
Q312	KTC3199GRTA	TRANSISTOR	[M]
Q313	2SD2144STA	TRANSISTOR	[M]
Q314	KTC3199GRTA	TRANSISTOR	[M]
Q315	2SD2144STA	TRANSISTOR	[M]
Q316	2SD1450STA	TRANSISTOR	[M]
Q350	KSB564ACYGTA	TRANSISTOR	[M]
Q351	RVTDTC114EST	TRANSISTOR	[M]
Q400	2SD2144STA	TRANSISTOR	[M]
Q401	KTC3199GRTA	TRANSISTOR	[M]
Q501	2SD2395E	TRANSISTOR	[M]⚠
Q502	2SB1566E	TRANSISTOR	[M]⚠
Q503	KTA12710YTA	TRANSISTOR	[M]
Q504	2SB1566E	TRANSISTOR	[M]⚠
Q505	2SD2144STA	TRANSISTOR	[M]
Q506	2SA933SSTA	TRANSISTOR	[M]⚠
Q507	KTC3199GRTA	TRANSISTOR	[M]
Q508	KTC3199GRTA	TRANSISTOR	[M]⚠
Q509	KRA110MTA	TRANSISTOR	[M]
Q510	KRA110MTA	TRANSISTOR	[M]
Q511	2SC1740SSTA	TRANSISTOR	[M]⚠
Q512	2SB1238QRTV2	TRANSISTOR	[M]⚠
Q513	2SC2785FTA	TRANSISTOR	[M]
Q514	2SD2395E	TRANSISTOR	[M]⚠
Q515	2SC2785FTA	TRANSISTOR	[M]
Q516	2SC2785FTA	TRANSISTOR	[M]
Q517	KTC32030YTA	TRANSISTOR	[M]⚠
Q518	2SC2785FTA	TRANSISTOR	[M]
Q519	2SC1740SSTA	TRANSISTOR	[M]
Q520	KTC3199GRTA	TRANSISTOR	[M]
Q521	KTC3199GRTA	TRANSISTOR	[M]
Q522	2SD2144STA	TRANSISTOR	[M]
Q591	2SC1740SSTA	TRANSISTOR	[M]

Ref No.	Part No.	Part Name & Description	Remarks
Q592	2SC3940AQSTA	TRANSISTOR	[M]⚠
Q602	2SJ498CDTA	TRANSISTOR	[M]
Q602	KTA12710YTA	TRANSISTOR	[M]
Q603	KTC3199GRTA	TRANSISTOR	[M]
Q604	KTC3199GRTA	TRANSISTOR	[M]
Q605	KTC3199GRTA	TRANSISTOR	[M]
Q606	KTC3199GRTA	TRANSISTOR	[M]
Q607	KRC103MTA	TRANSISTOR	[M]
Q608	KTC3199GRTA	TRANSISTOR	[M]
Q609	KTC3199GRTA	TRANSISTOR	[M]
Q610	2SA933SSTA	TRANSISTOR	[M]
Q611	KRC102MTA	TRANSISTOR	[M]
Q701	2SA1037AKSTX	TRANSISTOR	[M]
Q702	2SJ498CDTA	TRANSISTOR	[M]
Q702	DTC114YKA146	TRANSISTOR	[M]
Q703	KTC3199GRTA	TRANSISTOR	[M]
Q704	KTC3199GRTA	TRANSISTOR	[M]
Q1001	2SC2784FTA	TRANSISTOR	[M]
Q1002	2SC2784FTA	TRANSISTOR	[M]
Q1003	2SD1450STA	TRANSISTOR	[M]
Q1004	2SD2144STA	TRANSISTOR	[M]
Q1005	2SD2144STA	TRANSISTOR	[M]
Q1006	KRC114MTA	TRANSISTOR	[M]
Q1007	KTC3199GRTA	TRANSISTOR	[M]
Q1008	2SD965RTA	TRANSISTOR	[M]
Q1009	KTA12710YTA	TRANSISTOR	[M]
Q1010	KRC111MTA	TRANSISTOR	[M]
Q1011	KRC111MTA	TRANSISTOR	[M]
Q1012	KRA102MTA	TRANSISTOR	[M]
Q1013	KRA102MTA	TRANSISTOR	[M]
Q1014	KTC3199GRTA	TRANSISTOR	[M]
Q1015	KTA12710YTA	TRANSISTOR	[M]
		DIODES	
D1	GP1S94	DIODE	[M]
D2	MTZJ4R7BTA	DIODE	[M]
D101	MTZJ5R1BTA	DIODE	[M]⚠
D200	RVD1SS133TA	DIODE	[M]
D302	MTZJ5R1BTA	DIODE	[M]⚠
D306	RVD1SS133TA	DIODE	[M]
D307	RVD1SS133TA	DIODE	[M]
D308	RVD1SS133TA	DIODE	[M]
D310	RVD1SS133TA	DIODE	[M]
D312	1D3E	DIODE	[M]
D313	RVD1SS133TA	DIODE	[M]
D314	RVD1SS133TA	DIODE	[M]
D315	RVD1SS133TA	DIODE	[M]
D316	RVD1SS133TA	DIODE	[M]
D400	RVD1SS133TA	DIODE	[M]
D500	MTZJ6R2BTA	DIODE	[M]⚠
D501	1N5402BM21	DIODE	[M]⚠
D502	1N5402BM21	DIODE	[M]⚠
D503	1N5402BM21	DIODE	[M]⚠
D504	1N5402BM21	DIODE	[M]⚠
D505	1D3E	DIODE	[M]⚠
D506	MTZJ12BTA	DIODE	[M]
D507	1D3E	DIODE	[M]⚠
D509	1D3E	DIODE	[M]
D510	1D3E	DIODE	[M]
D513	MTZJ5R1BTA	DIODE	[M]⚠
D515	MTZJ8R2CTA	DIODE	[M]⚠
D516	RVD1SS133TA	DIODE	[M]
D517	MTZJ5R6BTA	DIODE	[M]⚠
D518	MTZJ33BTA	DIODE	[M]⚠
D520	MTZJ10BTA	DIODE	[M]⚠
D521	1D3E	DIODE	[M]
D523	1D3E	DIODE	[M]
D524	MTZJ15CTA	DIODE	[M]⚠
D525	RVD1SS133TA	DIODE	[M]
D526	1D3E	DIODE	[M]
D528	RVD1SS133TA	DIODE	[M]
D539	RL1N4003N02	DIODE	[M]
D540	RL1N4003N02	DIODE	[M]
D541	RL1N4003N02	DIODE	[M]
D542	MA165TA	DIODE	[M]
D543	MA165TA	DIODE	[M]
D544	MA165TA	DIODE	[M]
D591	1D3E	DIODE	[M]⚠
D592	1D3E	DIODE	[M]⚠
D593	1D3E	DIODE	[M]⚠
D594	1D3E	DIODE	[M]⚠
D595	MTZJ7R5ATA	DIODE	[M]⚠
D596	RVD1SS133TA	DIODE	[M]
D598	1D3E	DIODE	[M]
D604	SLR325DCT31	DIODE	[M]
D605	LNJ201LPQJA	DIODE	[M]
D606	SLR325MCT31W	DIODE	[M]
D607	SLR325MCT31W	DIODE	[M]
D608	SLR325MCT31W	DIODE	[M]
D609	SLR325MCT31W	DIODE	[M]
D610	SLR325MCT31W	DIODE	[M]
D611	SLR325MCT31W	DIODE	[M]
D612	SLR325MCT31W	DIODE	[M]
D613	SLR325MCT31W	DIODE	[M]
D614	SLR325MCT31W	DIODE	[M]
D615	SLR325MCT31W	DIODE	[M]
D616	SLR325DCT31	DIODE	[M]
D617	SLR325DCT31	DIODE	[M]
D620	RVD1SS133TA	DIODE	[M]
D623	RVD1SS133TA	DIODE	[M]
D625	RVD1SS133TA	DIODE	[M]
D627	1SS291TA	DIODE	[M]
D628	1SS291TA	DIODE	[M]
D629	RVD1SS133TA	DIODE	[M]
D630	RVD1SS133TA	DIODE	[M]
D631	RVD1SS133TA	DIODE	[M]
D632	1SS291TA	DIODE	[M]
D633	RVD1SS133TA	DIODE	[M]
D634	RVD1SS133TA	DIODE	[M]
D635	RVD1SS133TA	DIODE	[M]
D636	MA4020LTA	DIODE	[M]
D637	1SS291TA	DIODE	[M]
D638	RVD1SS133TA	DIODE	[M]
D639	RVD1SS133TA	DIODE	[M]
D640	RVD1SS133TA	DIODE	[M]
D641	RVD1SS133TA	DIODE	[M]
D642	RVD1SS133TA	DIODE	[M]
D643	RVD1SS133TA	DIODE	[M]
D951	MA165TA	DIODE	[M]
D971	MA165TA	DIODE	[M]
D1002	RVD1SS133TA	DIODE	[M]
D1003	RVD1SS133TA	DIODE	[M]
D1004	MTZJ3R6BTA	DIODE	[M]
D1006	RVD1SS133TA	DIODE	[M]
D1007	RVD1SS133TA	DIODE	[M]
		VARIABLE RESISTORS	
VR600	RRV16B24104G	VR, ROTARY ENCODE	[M]
		SWITCHES	
S602	EVQ21405R	SW, AUX/MD	[M]
S603	EVQ21405R	SW, TUNE DOWN	[M]
S604	EVQ21405R	SW, EJECT 5	[M]
S605	EVQ21405R	SW, TUNER/BAND	[M]
S606	EVQ21405R	SW, TUNE UP	[M]
S607	EVQ21405R	SW, EJECT 4	[M]
S608	EVQ21405R	SW, CD	[M]
S609	EVQ21405R	SW, TUNE MODE	[M]
S610	EVQ21405R	SW, EJECT 3	[M]
S611	EVQ21405R	SW, TAPE DECK 1/2	[M]
S612	EVQ21405R	SW, MEMORY	[M]
S613	EVQ21405R	SW, EJECT 2	[M]
S614	EVQ21405R	SW, CLK/TIMER	[M]
S615	EVQ21405R	SW, ECO MODE	[M]

Ref No.	Part No.	Part Name & Description	Remarks
S616	EVQ21405R	SW, FM MODE/BP	[M]
S617	EVQ21405R	SW, EJECT 1	[M]
S618	EVQ21405R	SW, PLAY/REC	[M]
S619	EVQ21405R	SW, RANDOM	[M]
S620	EVQ21405R	SW, DECK 1 EJECT	[M]
S621	EVQ11G07K	SW, EQ DOWN	[M]
S622	EVQ21405R	SW, DISPLAY/DEMO	[M]
S623	EVQ21405R	SW, CD MANAGER	[M]
S624	EVQ21405R	SW, TAPE EDIT	[M]
S625	EVQ11G07K	SW, EQ LEFT	[M]
S626	EVQ21405R	SW, V. BASS	[M]
S627	EVQ21405R	SW, DISC 5	[M]
S628	EVQ11G07K	SW, EQ UP	[M]
S629	EVQ21405R	SW, REC/STOP	[M]
S630	EVQ21405R	SW, DISC 4	[M]
S631	EVQ11G07K	SW, EQ RIGHT	[M]
S632	EVQ21405R	SW, REV MODE	[M]
S633	EVQ21405R	SW, DISC 3	[M]
S634	EVQ21405R	SW, DECK 2 EJECT	[M]
S635	EVQ21405R	SW, DISC 2	[M]
S636	EVQ21405R	SW, DISC 1	[M]
S638	EVQ21405R	SW, POWER	[M]
S639	EVQ21405R	SW, 3D AI EQ	[M]
S701	RSH1A043-U	SW, REST	[M]
S951	RSH1A018-3U	SW, LEAF	[M]
S952	RSH1A019-2U	SW, LEAF	[M]
S953	RSH1A019-2U	SW, LEAF	[M]
S971	RSH1A018-3U	SW, LEAF	[M]
S972	RSH1A019-2U	SW, LEAF	[M]
S973	RSH1A019-2U	SW, LEAF	[M]
S974	RSH1A019-2U	SW, LEAF	[M]
S975	RSH1A019-2U	SW, LEAF	[M]
SW1	RSH1A032-U	SW, SLIDE	[M]
SW2	RSH1A032-U	SW, SLIDE	[M]
SW3	RSH1A005-1U	SWITCH	[M]
SW4	RSH1A91ZA-A	SWITCH	[M]
SW5	RSP1A017-A	SW, LOWER	[M]
SW600	ESE24SV1	JOG SWITCH	[M]
		CONNECTORS	
CN1	RJS1A9414	14P CONNECTOR	[M]
CN101B	RJU100H05	5P B/B CONNECTOR	[D]
CN102B	RJU100H06	6P B/B CONNECTOR	[D]
CN300	RJU057G12	P2 MQ CONNECTOR	[M]
CN301	RJU057G12	P2 MQ CONNECTOR	[M]
CN302	RJS2A3330-1	30P FFC CONNECTOR	[M]
CN303	RJS1A9420	20P FFC CONNECTOR	[M]
CN304	RJS1A5210	10P WIRE HOLDER	[M]

Ref No.	Part No.	Part Name & Description	Remarks
CN309	RJS1A9414-1	14P FFC CONNECTOR	[M]
CN501	RJT029W09V-1	9P CONNECTOR	[M]
CN502	RJT029W04V	4P CONNECTOR	[M]
CN600	RJT071H11	11P B-B PIN	[M]
CN601	RJS8T7ZA	8P MOLEX	[M]
CN601	RJT071H11	11P B-B PIN	[M]
CN701	RJS2A6016	16P FFC CONNECTOR	[M]
CN702	RJS1A6723-1Q	23P FFC CONNCETOR	[M]
CP301	RJT100W06	6 PIN B/B CONN.	[D]
CP302	RJT100W05	5 PIN B/B CONN.	[D]
CP503	RJT057G12	P2 MQ CONNECTOR	[M]
CP504	RJT057G12	P2 MQ CONNECTOR	[M]
CP600	RJU071H11M	CONNECTOR	[M]
CP601	RJT071H09A	9P B-B PIN	[M]
CP601	RJU071H11M	CONNECTOR	[M]
CP602	RJT071H09A	9P B-B PIN	[M]
CP603	RJS1A6223-1	23P CONNECTOR	[M]
CP604	RJS2A4230-F	30P CONNECTOR	[M]
CP605	RJS1A9420	20P FFC CONNECTOR	[M]
CS701	RJS1A6805-J	CONNECTOR SOCKET	[M]
CS702	RJS1A6805-J	CONNECTOR SOCKET	[M]
CS951	RJU071H09M1	CONNECTOR	[M]
CS971	RJU071H09M1	CONNECTOR	[M]
		COILS & TRANSFORMERS	
L101	ELESNR68MA	CHOKE COIL	[M]
L102	ELESNR68MA	CHOKE COIL	[M]
L103	ELEXTR47MA9	CHOKE COIL	[M]
L500	RLQZ271M	LINE COIL	[M]⚠
L501	RLQYR73MW-E	CHOKE COIL	[M]
L502	RLQYR73MW-E	CHOKE COIL	[M]
L600	RLQZP101KT-Y	AXIAL COIL	[M]
L601	7L1A62N	BIAS OSC COIL	[M]
L601	RLQZP100KT-Y	AXIAL COIL	[M]
L602	RLQZP101KT-Y	AXIAL COIL	[M]
L603	RLQZP3R3KT-Y	COIL	[M]
L604	RLQZP101KT-Y	AXIAL COIL	[M]
L605	RLQZP101KT-Y	AXIAL COIL	[M]
L1002	RLQZB470KT-D	RF CHOKE COIL	[M]
T501	RTP2W3B001	POWER TRANS	[D]⚠
T502	RTP1I3E001-V	BACK-UP TRANS	[M]⚠
		COMPONENT COMBINATION	
Z101	RLA2Z003M-T	ANT COIL BLOCK	[M]
Z102	RLI2Z006M-T	AM IFT	[M]
Z120	ENV17290G1Y	FM TUNER PACK	[M]
Z300	EXBF7L355SYV	LADDER RESISTOR	[M]

Ref No.	Part No.	Part Name & Description	Remarks
Z501	ERZV10V511CS	ZNR	[M]⚠
Z601	EXBF7L355SYV	LADDER RESISTOR	[M]
Z602	EXBF7L355SYV	LADDER RESISTOR	[M]
Z602	RCDGP1U28XD	REMOTE SENSOR	[M]
Z971	EXBF7L355SYV	RADA RESISTOR	[M]
		CERAMIC FILTERS	
CF201	RLFFETNGD01L	CERAMIC FILTER	[M]
CF202	RLFFETMGD01L	CERAMIC FILTER	[M]
		RELAY	
RL501	RSY0017M-0	RELAY	[M]⚠
RL502	RSY0040M-0	PRIMARY RELAY	[M]⚠
		OSCILLATORS	
X102	RLFDFT13DD	FM RESONATOR	[M]
X103	RSXC7M20S05T	CRYSTAL OSCILLATOR	[M]
X600	RSXZ8M00D01T	CERAMIC RESONATOR	[M]
X601	RSXD32K7S02	32.768HKZ X'TAL	[M]
X701	RSXZ16M9M01T	CERAMIC OSC	[M]
		DISPLAY TUBE	
FL600	RSL0276-F	FL	[M]
		FUSES	
F1	XBA2C06TB0	FUSE	[M]⚠
		FUSE HOLDERS	
FC1	EYF52BC	FUSE HOLDER	[M]
FC2	EYF52BC	FUSE HOLDER	[M]
		HOLDERS	
H501	RJS1A5509	9P CABLE HOLDER	[M]
H502	RJS1A5504	CABLE HOLDER	[M]
H600	RMR0317	8P CABLE HOLDER	[M]
H600	RMR0319	10P CABLE HOLDER	[M]
		JACKS	
JK101	RJH5210-1	JK, ANTENNA	[M]
JK305	RJH2206	JK, RCA	[M]
JK500	SJS9236-J	JK, AC INLET	[M]⚠

Ref No.	Part No.	Part Name & Description	Remarks
JK501	RJR0054B-J	JK, SPEAKER	[M]
JK600	RJJ37TK07-H	JK, HP	[M]
		EARTH TERMINAL	
E500	SNE1004-2	EARTH TERMINAL	[M]
		WIRES	
W1	REE0501	TRANS. WIRE (YEL)	[M]
W1	REZ1023-1	4P WIRE	[M]
W2	REE0856	TRANS. WIRE (BLACK)	[M]
W2	REZ1024	3P WIRE	[M]
W500	REXX0202	TRANSFORMER WIRE	[M]
W501	REXX0198	9-PIN WIRE	[M]

Resistors & Capacitors

Notes : * Capacitor values are in microfarads (mF) unless specified otherwise, P=Pico-farads (pF), F=Farads.
* Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM).
* Bracketed indications in Values & Remarks columns specify the area (Refer to the first page for area). Parts without these indications can be used for all areas.
* [M] indicates in the Values & Remarks columns indicates parts supplied by **MESA**
* [D] indicates in the Values & Remarks columns indicates parts supplied by **MAVD.**

Ref. No.	Part No.	Values & Remarks
		RESISTORS
R1	ERDS2TJ102T	1K 1/4W [M]
R102	ERDS2TJ472T	4.7K 1/4W [M]
R103	ERDS2TJ101T	100 1/4W [M]
R104	ERDS2TJ103T	10K 1/4W [M]
R105	ERDS2TJ471T	470 1/4W [M]
R106	ERDS2TJ474T	470K 1/4W [M]
R107	ERDS2TJ331T	330 1/4W [M]
R108	ERDS2TJ474T	470K 1/4W [M]
R109	ERDS2TJ331T	330 1/4W [M]
R110	ERDS2TJ102T	1K 1/4W [M]
R111	ERDS2TJ391T	390 1/4W [M]
R112	ERDS2TJ104T	100K 1/4W [M]
R113	ERDS2TJ103T	10K 1/4W [M]
R114	ERDS2TJ562T	5.6K 1/4W [M]
R115	ERDS2TJ561T	560 1/4W [M]
R116	ERDS2TJ102T	1K 1/4W [M]
R117	ERDS2TJ683T	68K 1/4W [M]
R118	ERDS2TJ472T	4.7K 1/4W [M]
R119	ERDS2TJ333T	33K 1/4W [M]
R120	ERDS2TJ473T	47K 1/4W [M]
R121	ERDS2TJ223T	22K 1/4W [M]
R122	ERDS2TJ272T	2.7K 1/4W [M]
R123	ERDS2TJ683T	68K 1/4W [M]
R124	ERDS2TJ271T	270 1/4W [M]
R125	ERDS2TJ471T	470 1/4W [M]
R126	ERDS2TJ102T	1K 1/4W [M]
R127	ERDS2TJ471T	470 1/4W [M]
R128	ERDS2TJ820T	82 1/4W [M]
R129	ERDS2TJ273T	27K 1/4W [M]
R130	ERDS2TJ103T	10K 1/4W [M]
R131	ERDS2TJ680T	68 1/4W [M]
R132	ERDS2TJ103T	10K 1/4W [M]
R133	ERDS2TJ102T	1K 1/4W [M]
R134	ERDS2TJ471T	470 1/4W [M]
R135	ERDS2TJ102T	1K 1/4W [M]
R136	ERDS2TJ102T	1K 1/4W [M]
R137	ERDS2TJ102T	1K 1/4W [M]
R138	ERDS2TJ332T	3.3K 1/4W [M]
R141	ERDS2TJ102T	1K 1/4W [M]
R142	ERDS2TJ102T	1K 1/4W [M]
R143	ERDS2TJ223T	22K 1/4W [M]
R145	ERDS2TJ104T	100K 1/4W [M]
R146	ERDS2TJ104T	100K 1/4W [M]
R201	ERDS2TJ123T	12K 1/4W [M]
R202	ERDS2TJ222T	2.2K 1/4W [M]
R207	ERDS2TJ102T	1K 1/4W [M]
R208	ERDS2TJ822T	8.2K 1/4W [M]
R209	ERDS2TJ272T	2.7K 1/4W [M]
R210	ERDS2TJ222T	2.2K 1/4W [M]
R211	ERDS2TJ562T	5.6K 1/4W [M]
R212	ERDS2TJ182T	1.8K 1/4W [M]
R213	ERDS2TJ223T	22K 1/4W [M]
R215	ERDS2TJ152T	1.5K 1/4W [M]
R216	ERDS2TJ562T	5.6K 1/4W [M]
R217	ERDS2TJ683T	68K 1/4W [M]
R218	ERDS2TJ332T	3.3K 1/4W [M]
R219	ERDS2TJ472T	4.7K 1/4W [M]
R220	ERDS2TJ104T	100K 1/4W [M]
R221	ERDS2TJ102T	1K 1/4W [M]
R223	ERDS2TJ473T	47K 1/4W [M]
R224	ERDS2TJ153T	15K 1/4W [M]
R225	ERDS2TJ102T	1K 1/4W [M]
R226	ERDS2TJ152T	1.5K 1/4W [M]
R227	ERDS2TJ390T	39 1/4W [M]
R228	ERDS2TJ102T	1K 1/4W [M]
R229	ERDS2TJ472T	4.7K 1/4W [M]
R230	ERDS2TJ392T	3.9K 1/4W [M]
R231	ERDS2TJ271T	270 1/4W [M]
R232	ERDS2TJ123T	12K 1/4W [M]
R233	ERDS2TJ273T	27K 1/4W [M]
R236	ERDS2TJ222T	2.2K 1/4W [M]
R253	ERDS2TJ390T	39 1/4W [M]
R300	ERDS2TJ472T	4.7K 1/4W [M]
R301	ERDS2TJ223T	22K 1/4W [M]
R302	ERDS2TJ183T	18K 1/4W [M]
R303	ERDS2TJ100T	10 1/4W [M]
R304	ERDS2TJ223T	22K 1/4W [M]
R305	ERDS2TJ103T	10K 1/4W [M]
R306	ERDS2TJ122T	1.2K 1/4W [M]
R307	ERDS2TJ473T	47K 1/4W [M]
R308	ERDS2TJ332T	3.3K 1/4W [M]
R309	ERDS2TJ272T	2.7K 1/4W [M]
R313	ERDS2TJ393T	39K 1/4W [M]
R316	ERDS2TJ153T	15K 1/4W [M]
R318	ERDS2TJ123T	12K 1/4W [M]
R321	ERDS2TJ2R7T	2.7 1/4W [M]
R322	ERDS2TJ271T	270 1/4W [M]
R323	ERDS2TJ222T	2.2K 1/4W [M]
R324	ERDS2TJ222T	2.2K 1/4W [M]
R325	ERDS2TJ222T	2.2K 1/4W [M]
R326	ERDS2TJ683T	68K 1/4W [M]
R327	ERDS2TJ154T	150K 1/4W [M]
R328	ERDS2TJ683T	68K 1/4W [M]
R329	ERDS2TJ154T	150K 1/4W [M]
R330	ERDS2TJ333T	33K 1/4W [M]
R331	ERDS2TJ222T	2.2K 1/4W [M]
R332	ERDS2TJ222T	2.2K 1/4W [M]
R333	ERDS2TJ101T	100 1/4W [M]
R334	ERDS2TJ563T	56K 1/4W [M]
R343	ERDS2TJ104T	100K 1/4W [M]
R345	ERDS2TJ221T	220 1/4W [M]
R346	ERDS2TJ223T	22K 1/4W [M]
R347	ERDS2TJ123T	12K 1/4W [M]
R348	ERDS2TJ103T	10K 1/4W [M]
R349	ERDS2TJ103T	10K 1/4W [M]
R350	ERDS2TJ102T	1K 1/4W [M]
R351	ERDS2TJ472T	4.7K 1/4W [M]
R352	ERDS2TJ472T	4.7K 1/4W [M]
R353	ERDS2TJ222T	2.2K 1/4W [M]
R354	ERDS2TJ472T	4.7K 1/4W [M]
R355	ERDS2TJ472T	4.7K 1/4W [M]
R356	ERDS2TJ472T	4.7K 1/4W [M]
R357	ERDS2TJ222T	2.2K 1/4W [M]
R358	ERDS2TJ472T	4.7K 1/4W [M]
R359	ERDS2TJ472T	4.7K 1/4W [M]
R360	ERDS2TJ472T	4.7K 1/4W [M]
R401	ERDS2TJ123T	12K 1/4W [M]
R402	ERDS2TJ222T	2.2K 1/4W [M]
R407	ERDS2TJ102T	1K 1/4W [M]
R408	ERDS2TJ822T	8.2K 1/4W [M]
R409	ERDS2TJ272T	2.7K 1/4W [M]
R410	ERDS2TJ222T	2.2K 1/4W [M]
R411	ERDS2TJ562T	5.6K 1/4W [M]
R412	ERDS2TJ182T	1.8K 1/4W [M]
R413	ERDS2TJ223T	22K 1/4W [M]
R415	ERDS2TJ152T	1.5K 1/4W [M]
R416	ERDS2TJ562T	5.6K 1/4W [M]
R417	ERDS2TJ683T	68K 1/4W [M]
R418	ERDS2TJ332T	3.3K 1/4W [M]
R419	ERDS2TJ472T	4.7K 1/4W [M]
R420	ERDS2TJ104T	100K 1/4W [M]
R421	ERDS2TJ102T	1K 1/4W [M]
R423	ERDS2TJ473T	47K 1/4W [M]
R424	ERDS2TJ153T	15K 1/4W [M]

Ref. No.	Part No.	Values & Remarks
R425	ERDS2TJ102T	1K 1/4W [M]
R426	ERDS2TJ152T	1.5K 1/4W [M]
R427	ERDS2TJ390T	39 1/4W [M]
R428	ERDS2TJ102T	1K 1/4W [M]
R429	ERDS2TJ472T	4.7K 1/4W [M]
R430	ERDS2TJ392T	3.9K 1/4W [M]
R431	ERDS2TJ271T	270 1/4W [M]
R432	ERDS2TJ123T	12K 1/4W [M]
R433	ERDS2TJ273T	27K 1/4W [M]
R436	ERDS2TJ222T	2.2K 1/4W [M]
R451	ERDS2TJ562T	5.6K 1/4W [M]
R452	ERDS2TJ103T	10K 1/4W [M]
R453	ERDS2TJ390T	39 1/4W [M]
R454	ERDS2TJ223T	22K 1/4W [M]
R455	ERDS2TJ152T	1.5K 1/4W [M]
R456	ERDS2TJ562T	5.6K 1/4W [M]
R457	ERDS2TJ822T	8.2K 1/4W [M]
R458	ERDS2TJ822T	8.2K 1/4W [M]
R459	ERDS2TJ392T	3.9K 1/4W [M]
R460	ERDS2TJ332T	3.3K 1/4W [M]
R501	ERDS2TJ100T	10 1/4W [M]
R502	ERDS2TJ100T	10 1/4W [M]
R503	ERDS2TJ332T	3.3K 1/4W [M]
R507	ERDS2TJ103T	10K 1/4W [M]
R509	ERDS2TJ472T	4.7K 1/4W [M]
R510	ERDS2TJ122T	1.2K 1/4W [M]
R511	ERDS2TJ182T	1.8K 1/4W [M]
R512	ERDS2TJ151T	150 1/4W [M]
R513	ERDS2TJ331T	330 1/4W [M]
R514	ERDS1FVJ470T	47 1/2W ⚠[M]
R515	ERDS1FVJ470T	47 1/2W ⚠[M]
R516	ERDS2TJ822T	8.2K 1/4W [M]
R517	ERDS2TJ331T	330 1/4W [M]
R518	ERDS2TJ122T	1.2K 1/4W [M]
R519	ERDS2TJ2R2T	2.2 1/4W [M]
R520	ERDS2TJ2R2T	2.2 1/4W [M]
R521	ERDS2TJ151T	150 1/4W [M]
R522	ERDS2TJ472T	4.7K 1/4W [M]
R523	ERD2FCVJ4R7T	4.7 1/4W [M]
R524	ERDS2TJ2R2T	2.2 1/4W [M]
R525	ERDS2TJ272T	2.7K 1/4W [M]
R526	ERDS2TJ103T	10K 1/4W [M]
R527	ERDS2TJ561T	560 1/4W [M]
R528	ERDS2TJ272T	2.7K 1/4W [M]
R529	ERDS1FVJ332T	3.3K 1/2W ⚠[M]
R530	ERD2FCVG270T	27 1/4W [M]
R531	ERDS1FVJ150T	15 1/2W ⚠[M]
R532	ERDS2TJ102T	1K 1/4W [M]
R533	ERDS2TJ102T	1K 1/4W [M]

Ref. No.	Part No.	Values & Remarks
R534	ERD25FVJ4R7T	4.7 1/4W [M]
R535	ERDS2TJ124T	120K 1/4W [M]
R536	ERDS1FVJ100T	10 1/2W ⚠[M]
R537	ERDS2TJ222T	2.2K 1/4W [M]
R538	ERDS2TJ103T	10K 1/4W [M]
R539	ERDS1FVJ392T	3.9K 1/2W ⚠[M]
R540	ERDS2TJ683T	68K 1/4W [M]
R541	ERDS2TJ683T	68K 1/4W [M]
R542	ERDS2TJ562T	5.6K 1/4W [M]
R543	ERDS2TJ562T	5.6K 1/4W [M]
R544	ERDS2TJ683T	68K 1/4W [M]
R545	ERDS2TJ683T	68K 1/4W [M]
R546	ERDS2TJ223T	22K 1/4W [M]
R547	ERDS2TJ124T	120K 1/4W [M]
R548	ERDS2TJ104T	100K 1/4W [M]
R549	ERDS1FVJ2R2T	2.2 1/2W ⚠[M]
R550	ERDS2TJ332T	3.3K 1/4W [M]
R551	ERDS2TJ103T	10K 1/4W [M]
R552	ERDS1FVJ100T	10 1/2W ⚠[M]
R553	ERDS1FVJ100T	10 1/2W ⚠[M]
R554	ERDS2TJ334T	330K 1/4W [M]
R556	ERD2FCVG270T	27 1/4W [M]
R557	ERDS1FVJ270T	27 1/2W ⚠[M]
R558	ERDS2TJ104T	100K 1/4W [M]
R559	ERDS2TJ104T	100K 1/4W [M]
R560	ERDS2TJ123T	12K 1/4W [M]
R561	ERDS2TJ123T	12K 1/4W [M]
R562	ERDS2TJ102T	1K 1/4W [M]
R563	ERDS2TJ103T	10K 1/4W [M]
R564	ERDS2TJ272T	2.7K 1/4W [M]
R565	ERDS2TJ104T	100K 1/4W [M]
R566	ERDS2TJ222T	2.2K 1/4W [M]
R567	ERDS2TJ151T	150 1/4W [M]
R568	ERDS2TJ823T	82K 1/4W [M]
R569	ERDS2TJ393T	39K 1/4W [M]
R570	ERDS2TJ104T	100K 1/4W [M]
R571	ERDS2TJ563T	56K 1/4W [M]
R572	ERDS2TJ563T	56K 1/4W [M]
R573	ERDS2TJ822T	8.2K 1/4W [M]
R574	ERDS2TJ822T	8.2K 1/4W [M]
R580	ERDS2TJ150T	15 1/4W [M]
R581	ERDS1FVJ270T	27 1/2W ⚠[M]
R591	RSFMB40KT-L	FUSE PROTECTOR ⚠[M]
R592	RSFMB40KT-L	FUSE PROTECTOR ⚠[M]
R593	ERDS2TJ222T	2.2K 1/4W [M]
R595	ERDS2TJ332T	3.3K 1/4W [M]
R597	ERDS2TJ102T	1K 1/4W [M]
R598	ERDS2TJ223T	22K 1/4W [M]
R599	ERDS2TJ151T	150 1/4W [M]

Ref. No.	Part No.	Values & Remarks
R600	ERDS2TJ223T	22K 1/4W [M]
R601	ERDS2TJ183T	18K 1/4W [M]
R601	ERDS2TJ333T	33K 1/4W [M]
R602	ERDS2TJ104T	100K 1/4W [M]
R602	ERDS2TJ392T	3.9K 1/4W [M]
R603	ERDS2TJ682T	6.8K 1/4W [M]
R604	ERDS2TJ103T	10K 1/4W [M]
R604	ERDS2TJ822T	8.2K 1/4W [M]
R605	ERDS2TJ103T	10K 1/4W [M]
R606	ERDS2TJ222T	2.2K 1/4W [M]
R606	ERDS2TJ682T	6.8K 1/4W [M]
R607	ERDS2TJ103T	10K 1/4W [M]
R607	ERDS2TJ472T	4.7K 1/4W [M]
R608	ERDS2TJ682T	6.8K 1/4W [M]
R609	ERDS2TJ153T	15K 1/4W [M]
R609	ERDS2TJ472T	4.7K 1/4W [M]
R610	ERDS2TJ104T	100K 1/4W [M]
R610	ERDS2TJ272T	2.7K 1/4W [M]
R611	ERDS2TJ472T	4.7K 1/4W [M]
R611	ERDS2TJ563T	56K 1/4W [M]
R612	ERDS2TJ470T	47 1/4W [M]
R613	ERDS2TJ272T	2.7K 1/4W [M]
R614	ERDS2TJ222T	2.2K 1/4W [M]
R615	ERDS2TJ103T	10K 1/4W [M]
R616	ERDS2TJ272T	2.7K 1/4W [M]
R617	ERDS2TJ222T	2.2K 1/4W [M]
R618	ERDS2TJ182T	1.8K 1/4W [M]
R622	ERDS2TJ221T	220 1/4W [M]
R622	ERDS2TJ470T	47 1/4W [M]
R623	ERDS2TJ682T	6.8K 1/4W [M]
R624	ERDS2TJ222T	2.2K 1/4W [M]
R629	ERDS2TJ182T	1.8K 1/4W [M]
R630	ERDS2TJ122T	1.2K 1/4W [M]
R631	ERDS2TJ472T	4.7K 1/4W [M]
R633	ERDS2TJ182T	1.8K 1/4W [M]
R634	ERDS2TJ122T	1.2K 1/4W [M]
R635	ERDS2TJ102T	1K 1/4W [M]
R638	ERDS2TJ272T	2.7K 1/4W [M]
R639	ERDS2TJ102T	1K 1/4W [M]
R640	ERDS2TJ122T	1.2K 1/4W [M]
R641	ERDS2TJ102T	1K 1/4W [M]
R642	ERDS2TJ102T	1K 1/4W [M]
R644	ERDS2TJ222T	2.2K 1/4W [M]
R645	ERDS2TJ102T	1K 1/4W [M]
R646	ERDS2TJ820T	82 1/4W [M]
R647	ERDS2TJ331T	330 1/4W [M]
R648	ERDS2TJ102T	1K 1/4W [M]
R649	ERDS2TJ182T	1.8K 1/4W [M]
R650	ERDS2TJ331T	330 1/4W [M]

Ref. No.	Part No.	Values & Remarks
R652	ERDS2TJ102T	1K 1/4W [M]
R653	ERDS2TJ122T	1.2K 1/4W [M]
R654	ERDS2TJ331T	330 1/4W [M]
R655	ERDS2TJ331T	330 1/4W [M]
R656	ERDS2TJ102T	1K 1/4W [M]
R657	ERDS2TJ331T	330 1/4W [M]
R658	ERDS2TJ101T	100 1/4W [M]
R659	ERDS2TJ331T	330 1/4W [M]
R660	ERDS2TJ102T	1K 1/4W [M]
R661	ERDS2TJ331T	330 1/4W [M]
R662	ERDS2TJ102T	1K 1/4W [M]
R663	ERDS2TJ102T	1K 1/4W [M]
R664	ERDS2TJ104T	100K 1/4W [M]
R665	ERDS2TJ104T	100K 1/4W [M]
R666	ERDS2TJ104T	100K 1/4W [M]
R667	ERDS2TJ104T	100K 1/4W [M]
R668	ERDS2TJ104T	100K 1/4W [M]
R669	ERDS2TJ104T	100K 1/4W [M]
R670	ERDS2TJ104T	100K 1/4W [M]
R671	ERDS2TJ104T	100K 1/4W [M]
R672	ERDS2TJ104T	100K 1/4W [M]
R673	ERDS2TJ104T	100K 1/4W [M]
R674	ERDS2TJ104T	100K 1/4W [M]
R675	ERDS2TJ104T	100K 1/4W [M]
R676	ERDS2TJ104T	100K 1/4W [M]
R677	ERDS2TJ103T	10K 1/4W [M]
R678	ERDS2TJ391T	390 1/4W [M]
R679	ERDS2TJ391T	390 1/4W [M]
R682	ERDS2TJ103T	10K 1/4W [M]
R683	ERDS2TJ103T	10K 1/4W [M]
R684	ERDS2TJ103T	10K 1/4W [M]
R685	ERDS2TJ103T	10K 1/4W [M]
R686	ERDS2TJ223T	22K 1/4W [M]
R688	ERDS2TJ103T	10K 1/4W [M]
R689	ERDS2TJ101T	100 1/4W [M]
R690	ERDS2TJ101T	100 1/4W [M]
R691	ERDS2TJ101T	100 1/4W [M]
R692	ERDS2TJ101T	100 1/4W [M]
R694	ERDS2TJ152T	1.5K 1/4W [M]
R695	ERDS2TJ223T	22K 1/4W [M]
R697	ERDS2TJ224T	220K 1/4W [M]
R698	ERDS2TJ104T	100K 1/4W [M]
R699	ERDS2TJ101T	100 1/4W [M]
R701	ERDS2TJ183T	18K 1/4W [M]
R701	ERJ6GEYJ4R7A	4.7 1/10W [M]
R702	ERDS2TJ470T	47 1/4W [M]
R702	ERJ6GEYJ822A	8.2K 1/10W [M]
R703	ERDS2TJ392T	3.9K 1/4W [M]
R704	ERDS2TJ822T	8.2K 1/4W [M]

Ref. No.	Part No.	Values & Remarks		
R704	ERJ6GEYJ102A	1K	1/10W	[M]
R705	ERJ6GEYJ124A	120K	1/10W	[M]
R706	ERDS2TJ222T	2.2K	1/4W	[M]
R706	ERJ6GEYJ102A	1K	1/10W	[M]
R707	ERDS2TJ103T	10K	1/4W	[M]
R707	ERJ6GEYJ474A	470K	1/10W	[M]
R708	ERJ6GEYJ154A	150K	1/10W	[M]
R709	ERDS2TJ153T	15K	1/4W	[M]
R709	ERJ6GEYJ473A	47K	1/10W	[M]
R710	ERDS2TJ104T	100K	1/4W	[M]
R710	ERJ6GEYJ103A	10K	1/10W	[M]
R711	ERDS2TJ563T	56K	1/4W	[M]
R711	ERJ6GEYJ104A	100K	1/10W	[M]
R712	ERDS2TJ470T	47	1/4W	[M]
R712	ERJ6GEYJ151A	150	1/10W	[M]
R715	ERJ6GEYJ122A	1.2K	1/10W	[M]
R717	ERJ6GEYJ102A	1K	1/10W	[M]
R718	ERJ6GEYJ102A	1K	1/10W	[M]
R719	ERJ6GEYJ102A	1K	1/10W	[M]
R720	ERJ6GEYJ102A	1K	1/10W	[M]
R721	ERJ6GEYJ101A	100	1/10W	[M]
R723	ERJ6GEYJ272A	2.7K	1/10W	[M]
R724	ERJ6GEYJ333A	33K	1/10W	[M]
R725	ERJ6GEYJ122A	1.2K	1/10W	[M]
R727	ERJ6GEYJ682A	6.8K	1/10W	[M]
R728	ERJ6GEYJ682A	6.8K	1/10W	[M]
R729	ERJ6GEYJ562A	5.6K	1/10W	[M]
R731	ERJ6GEYJ123A	12K	1/10W	[M]
R734	ERJ6GEYJ101A	100	1/10W	[M]
R735	ERJ6GEYJ101A	100	1/10W	[M]
R736	ERJ6GEYJ101A	100	1/10W	[M]
R738	ERJ6GEYJ223A	22K	1/10W	[M]
R741	ERJ6GEYJ562A	5.6K	1/10W	[M]
R742	ERJ6GEYJ562A	5.6K	1/10W	[M]
R743	ERJ6GEYJ562A	5.6K	1/10W	[M]
R744	ERJ6GEYJ104A	100K	1/10W	[M]
R745	ERJ6GEYJ106A	10M	1/10W	[M]
R748	ERJ6GEYJ272A	2.7K	1/10W	[M]
R749	ERJ6GEYJ682A	6.8K	1/10W	[M]
R752	ERJ8GEYJ220A	22	1/8W	[M]
R770	ERJ6GEYJ224A	220K	1/10W	[M]
R901	ERDS2TJ101T	100	1/4W	[M]
R902	ERDS2TJ473T	47K	1/4W	[M]
R903	ERDS2TJ101T	100	1/4W	[M]
R904	ERDS2TJ473T	47K	1/4W	[M]
R905	ERDS2TJ101T	100	1/4W	[M]
R906	ERDS2TJ101T	100	1/4W	[M]
R907	ERDS2TJ104T	100K	1/4W	[M]
R908	ERDS2TJ101T	100	1/4W	[M]

Ref. No.	Part No.	Values & Remarks		
R909	ERDS2TJ101T	100	1/4W	[M]
R911	ERDS2TJ473T	47K	1/4W	[M]
R912	ERDS2TJ104T	100K	1/4W	[M]
R913	ERDS2TJ101T	100	1/4W	[M]
R914	ERDS2TJ104T	100K	1/4W	[M]
R915	ERDS2TJ101T	100	1/4W	[M]
R916	ERDS2TJ101T	100	1/4W	[M]
R917	ERDS2TJ681T	680	1/4W	[M]
R918	ERDS2TJ106T	10M	1/4W	[M]
R919	ERDS2TJ101T	100	1/4W	[M]
R920	ERDS2TJ334T	330K	1/4W	[M]
R921	ERDS2TJ562T	5.6K	1/4W	[M]
R922	ERDS2TJ680T	68	1/4W	[M]
R923	ERDS2TJ103T	10K	1/4W	[M]
R924	ERDS2TJ104T	100K	1/4W	[M]
R925	ERDS2TJ680T	68	1/4W	[M]
R926	ERDS2TJ102T	1K	1/4W	[M]
R927	ERDS2TJ103T	10K	1/4W	[M]
R928	ERDS2TJ103T	10K	1/4W	[M]
R929	ERDS2TJ103T	10K	1/4W	[M]
R930	ERDS2TJ103T	10K	1/4W	[M]
R931	ERDS2TJ472T	4.7K	1/4W	[M]
R932	ERDS2TJ223T	22K	1/4W	[M]
R933	ERDS2TJ471T	470	1/4W	[M]
R934	ERDS2TJ472T	4.7K	1/4W	[M]
R935	ERDS2TJ473T	47K	1/4W	[M]
R936	ERDS2TJ473T	47K	1/4W	[M]
R937	ERDS2TJ474T	470K	1/4W	[M]
R938	ERDS2TJ472T	4.7K	1/4W	[M]
R939	ERDS2TJ104T	100K	1/4W	[M]
R940	ERDS2TJ104T	100K	1/4W	[M]
R941	ERDS2TJ104T	100K	1/4W	[M]
R942	ERDS2TJ101T	100	1/4W	[M]
R945	ERDS2TJ103T	10K	1/4W	[M]
R947	ERDS2TJ102T	1K	1/4W	[M]
R948	ERDS2TJ102T	1K	1/4W	[M]
R952	ERDS2TJ101T	100	1/4W	[M]
R952	ERDS2TJ821T	820	1/4W	[M]
R953	ERDS2TJ393T	39K	1/4W	[M]
R972	ERDS2TJ821T	820	1/4W	[M]
R973	ERDS2TJ393T	39K	1/4W	[M]
R984	ERDS2TJ103T	10K	1/4W	[M]
R985	ERDS2TJ820T	82	1/4W	[M]
R986	ERDS2TJ151T	150	1/4W	[M]
R1002	ERDS2TJ102T	1K	1/4W	[M]
R1003	ERDS2TJ103T	10K	1/4W	[M]
R1005	ERDS2TJ1R0T	1	1/4W	[M]
R1006	ERDS2TJ152T	1.5K	1/4W	[M]
R1008	ERDS2TJ102T	1K	1/4W	[M]

Ref. No.	Part No.	Values & Remarks		
R1010	ERDS2TJ4R7T	4.7	1/4W	[M]
R1011	ERDS2TJ223T	22K	1/4W	[M]
R1012	ERDS2TJ103T	10K	1/4W	[M]
R1013	ERDS2TJ472T	4.7K	1/4W	[M]
R1014	ERDS2TJ472T	4.7K	1/4W	[M]
R1015	ERDS2TJ472T	4.7K	1/4W	[M]
R1016	ERDS2TJ274T	270K	1/4W	[M]
R1017	ERDS2TJ152T	1.5K	1/4W	[M]
R1018	ERDS2TJ106T	10M	1/4W	[M]
R1019	ERDS2TJ222T	2.2K	1/4W	[M]
R1020	ERDS2TJ273T	27K	1/4W	[M]
R1021	ERDS2TJ103T	10K	1/4W	[M]
R1022	ERDS2TJ103T	10K	1/4W	[M]
R1023	ERDS2TJ472T	4.7K	1/4W	[M]
R1025	ERDS2TJ822T	8.2K	1/4W	[M]
R1026	ERDS2TJ2R7T	2.7	1/4W	[M]
R1027	ERDS2TJ2R7T	2.7	1/4W	[M]
R1028	ERDS2TJ102T	1K	1/4W	[M]
R1029	ERDS2TJ102T	1K	1/4W	[M]
R1030	ERDS2TJ472T	4.7K	1/4W	[M]
R1031	ERDS2TJ102T	1K	1/4W	[M]
R1032	ERDS2TJ682T	6.8K	1/4W	[M]
R1033	ERDS2TJ103T	10K	1/4W	[M]
R1034	ERDS2TJ103T	10K	1/4W	[M]
R1035	ERDS2TJ102T	1K	1/4W	[M]
R1036	ERDS2TJ682T	6.8K	1/4W	[M]
R1037	ERDS2TJ823T	82K	1/4W	[M]
R1038	ERDS2TJ222T	2.2K	1/4W	[M]
R1039	ERDS2TJ222T	2.2K	1/4W	[M]
R1040	ERDS2TJ393T	39K	1/4W	[M]
R1041	ERDS2TJ682T	6.8K	1/4W	[M]
R1042	ERDS2TJ472T	4.7K	1/4W	[M]
R1043	ERDS2TJ472T	4.7K	1/4W	[M]
R1044	ERDS2TJ102T	1K	1/4W	[M]
R1045	ERDS2TJ393T	39K	1/4W	[M]
R1046	ERDS2TJ822T	8.2K	1/4W	[M]
R1047	ERDS2TJ391T	390	1/4W	[M]
R1048	ERDS2TJ472T	4.7K	1/4W	[M]
R1049	ERDS2TJ103T	10K	1/4W	[M]
		CAPACITORS		
C1	ECEA1CKA101B	100	16V	[M]
C2	ECBT1E103ZF5	0.01	25V	[M]
C101	ECBT1C103NS5	0.01	16V	[M]
C102	ECEA1CKA101B	100	16V	[M]
C103	ECBT1C103NS5	0.01	16V	[M]
C104	ECBT1H102KB5	1000P	50V	[M]
C105	ECBT1H102KB5	1000P	50V	[M]

Ref. No.	Part No.	Values & Remarks		
C106	ECBT1C103NS5	0.01	16V	[M]
C107	ECBT1H473ZF5	0.047	50V	[M]
C108	ECBT1H8R2KC5	8.2P	50V	[M]
C109	ECBT1H102KB5	1000P	50V	[M]
C110	ECBT1C103NS5	0.01	16V	[M]
C111	ECEA1EKA4R7B	4.7	25V	[M]
C112	ECBT1C103NS5	0.01	16V	[M]
C113	ECBT1H102KB5	1000P	50V	[M]
C114	ECEA1HKA3R3B	3.3	50V	[M]
C115	ECEA1EKA4R7B	4.7	25V	[M]
C116	ECFR1C333KR	0.033	16V	[M]
C117	ECFR1C183KR	0.018	16V	[M]
C118	ECFR1C183KR	0.018	16V	[M]
C119	ECQP2A391JZT	390P	100V	[M]
C120	ECEA1CKA100B	10	16V	[M]
C121	ECEA1HKAR47B	0.47	50V	[M]
C122	ECEA1HKA010B	1	50V	[M]
C123	ECEA1HKA010B	1	50V	[M]
C124	ECBT1H101KB5	100P	50V	[M]
C125	ECEA1CKA220B	22	16V	[M]
C126	ECBT1H473ZF5	0.047	50V	[M]
C127	ECEA1CKA220B	22	16V	[M]
C129	ECEA0JKA101B	100	6.3V	[M]
C130	ECEA0JKA101B	100	6.3V	[M]
C131	ECBT1H101KB5	100P	50V	[M]
C132	ECBT1H102KB5	1000P	50V	[M]
C133	ECBT1H150JC5	15P	50V	[M]
C134	ECBT1H180JC5	18P	50V	[M]
C136	ECBT1H102KB5	1000P	50V	[M]
C137	ECFR1C472KR	4700P	16V	[M]
C138	ECBT1C103KS5	0.01	16V	[M]
C139	ECFR1C472KR	4700P	16V	[M]
C141	ECEA1HKA010B	1	50V	[M]
C142	ECEA1HKA010B	1	50V	[M]
C143	ECBT1C472KR5	4700P	16V	[M]
C144	ECBT1C472KR5	4700P	16V	[M]
C147	ECBT1H102KB5	1000P	50V	[M]
C148	ECBT1C103NS5	0.01	16V	[M]
C149	ECBT1H104ZF5	0.1	50V	[M]
C201	ECBT1H101KB5	100P	50V	[M]
C202	ECBT1H101KB5	100P	50V	[M]
C204	ECBT1H221KB5	220P	50V	[M]
C205	ECBT1C272KR5	2700P	16V	[M]
C207	ECEA1HKA010B	1	50V	[M]
C208	ECFR1C563KR	0.056	16V	[M]
C209	ECEA1HKAR15B	0.15	50V	[M]
C210	ECFR1C223KR	0.022	16V	[M]
C211	ECFR1C393KR	0.039	16V	[M]
C212	ECFR1C223KR	0.022	16V	[M]

Ref. No.	Part No.	Values & Remarks		
C213	ECBT1C332KR5	3300P	16V	[M]
C214	ECBT1C222KR5	2200P	16V	[M]
C215	ECBT1C272KR5	2700P	16V	[M]
C216	ECBT1C152KR5	1500P	16V	[M]
C217	ECFR1C823MR	0.082	16V	[M]
C218	ECEA1HKAR15B	0.15	50V	[M]
C220	ECBT1H102KB5	1000P	50V	[M]
C221	ECFR1E104ZF5	0.1	25V	[M]
C222	ECBT1H471KB5	470P	50V	[M]
C223	ECEA1HKA4R7B	4.7	50V	[M]
C224	ECEA1HKA2R2B	2.2	50V	[M]
C225	ECEA1HKA3R3B	3.3	50V	[M]
C227	ECBT1H681KB5	680P	50V	[M]
C228	ECEA1CKA100B	10	16V	[M]
C229	ECBT1H101KB5	100P	50V	[M]
C230	ECBT1H470J5	47P	50V	[M]
C231	ECQV1H154JZ3	0.15	50V	[M]
C232	ECBT1C332KR5	3300P	16V	[M]
C233	ECEA1HKA010B	1	50V	[M]
C237	ECBT1H473ZF5	0.047	50V	[M]
C238	ECEA1HKAR33B	0.33	50V	[M]
C239	ECBT1H102KB5	1000P	50V	[M]
C300	ECBT1E103ZF5	0.01	25V	[M]
C301	ECBT1H102KB5	1000P	50V	[M]
C303	ECBT1H104ZF5	0.1	50V	[M]
C304	ECEA1AM331B	330	10V	[M]
C305	ECBT1C152KR5	1500P	16V	[M]
C306	ECEA1HKA0R1B	0.1	50V	[M]
C307	ECBT1H102KB5	1000P	50V	[M]
C311	ECBT1H104ZF5	0.1	50V	[M]
C312	ECBT1H104ZF5	0.1	50V	[M]
C313	ECBT1H104ZF5	0.1	50V	[M]
C314	ECBT1H151KB5	150P	50V	[M]
C315	ECBT1H151KB5	150P	50V	[M]
C316	ECBT1H151KB5	150P	50V	[M]
C317	ECEA1HKA010B	1	50V	[M]
C318	ECBT1E103ZF5	0.01	25V	[M]
C319	ECEA1CKA100B	10	16V	[M]
C320	ECBT1E103ZF5	0.01	25V	[M]
C330	ECEA1HKA010B	1	50V	[M]
C331	ECEA1HKA4R7B	4.7	50V	[M]
C401	ECBT1H101KB5	100P	50V	[M]
C402	ECBT1H101KB5	100P	50V	[M]
C404	ECBT1H221KB5	220P	50V	[M]
C405	ECBT1C272KR5	2700P	16V	[M]
C407	ECEA1HKA010B	1	50V	[M]
C408	ECFR1C563KR	0.056	16V	[M]
C409	ECEA1HKAR15B	0.15	50V	[M]
C410	ECFR1C223KR	0.022	16V	[M]
C411	ECFR1C393KR	0.039	16V	[M]
C412	ECFR1C223KR	0.022	16V	[M]
C413	ECBT1C332KR5	3300P	16V	[M]
C414	ECBT1C222KR5	2200P	16V	[M]
C415	ECBT1C272KR5	2700P	16V	[M]
C416	ECBT1C152KR5	1500P	16V	[M]
C417	ECFR1C823MR	0.082	16V	[M]
C418	ECEA1HKAR15B	0.15	50V	[M]
C420	ECBT1H102KB5	1000P	50V	[M]
C421	ECFR1E104ZF5	0.1	25V	[M]
C422	ECBT1H471KB5	470P	50V	[M]
C423	ECEA1HKA4R7B	4.7	50V	[M]
C424	ECEA1HKA2R2B	2.2	50V	[M]
C425	ECEA1HKA3R3B	3.3	50V	[M]
C427	ECBT1H681KB5	680P	50V	[M]
C428	ECEA1CKA100B	10	16V	[M]
C429	ECBT1H101KB5	100P	50V	[M]
C430	ECBT1H470J5	47P	50V	[M]
C431	ECQV1H154JZ3	0.15	50V	[M]
C432	ECBT1C332KR5	3300P	16V	[M]
C433	ECEA1HKA010B	1	50V	[M]
C437	ECBT1H473ZF5	0.047	50V	[M]
C438	ECEA1HKAR33B	0.33	50V	[M]
C501	ECBT1H102KB5	1000P	50V	[M]
C502	ECBT1H102KB5	1000P	50V	[M]
C503	ECBT1H331KB5	330P	50V	[M]
C504	ECBT1H331KB5	330P	50V	[M]
C506	RCEA1H222B-S	2200P	50V	⚠[M]
C507	RCEA1H222B-S	2200P	50V	⚠[M]
C508	RCEA1E332B-S	3300P	25V	⚠[M]
C509	ECBT1H103ZF5	0.01	50V	[M]
C510	ECBT1H103ZF5	0.01	50V	[M]
C511	ECKR2H103ZF5	0.01	500V	[M]
C512	ECEA1CKA101B	100	16V	[M]
C513	ECKR2H103ZF5	0.01	500V	[M]
C514	ECEA1AKA330B	33	10V	[M]
C515	ECEA1JM101B	100	63V	[M]
C516	ECEA2AM100B	10	100V	[M]
C517	ECKR2H103ZF5	0.01	500V	[M]
C518	ECKR2H103ZF5	0.01	500V	[M]
C519	ECEA1HKA100B	10	50V	[M]
C520	ECKR2H103ZF5	0.01	500V	[M]
C521	ECEA1EKA330B	33	25V	[M]
C522	ECEA1EM101B	100	25V	[M]
C523	ECEA1HKA010B	1	50V	[M]
C524	ECEA1HKA010B	1	50V	[M]
C525	ECEA1EKA330B	33	25V	[M]
C526	ECEA1HM330B	33	50V	[M]
C527	ECKR2H103ZF5	0.01	500V	[M]
C528	ECKR2H103ZF5	0.01	500V	[M]
C529	ECEA1HM101B	100	50V	[M]
C530	ECKR2H103ZF5	0.01	500V	[M]
C531	ECKR2H103ZF5	0.01	500V	[M]
C532	ECKR2H103ZF5	0.01	500V	[M]
C533	ECEA1HM101B	100	50V	[M]
C534	ECKR2H103ZF5	0.01	500V	[M]
C536	ECEA0JKA221B	220	6.3V	[M]
C537	ECBT1H102KB5	1000P	50V	[M]
C540	ECBT1H150J5	15P	50V	[M]
C541	ECBT1H150J5	15P	50V	[M]
C542	ECEA2AU100B	10	100V	[M]
C543	ECEA2AM100B	10	100V	[M]
C544	ECQV1H104JZ3	0.1	50V	[M]
C545	ECQV1H104JZ3	0.1	50V	[M]
C546	ECQV1H104JZ3	0.1	50V	[M]
C547	ECQV1H104JZ3	0.1	50V	[M]
C548	ECQV1H474JZ3	0.47	50V	[M]
C549	ECQV1H474JZ3	0.47	50V	[M]
C550	ECEA2AU100B	10	100V	[M]
C551	ECEA1HKA100B	10	50V	[M]
C552	ECEA1EKA4R7B	4.7	25V	[M]
C553	ECEA1HKA3R3B	3.3	50V	[M]
C554	ECEA1HKA3R3B	3.3	50V	[M]
C555	ECBT1H473ZF5	0.047	50V	[M]
C556	ECBT1H473ZF5	0.047	50V	[M]
C592	ECKR2H103ZF5	0.01	500V	[M]
C593	RCEA1C102B-S	1000P	16V	⚠[M]
C596	ECKR2H103ZF5	0.01	500V	[M]
C597	ECEA1EKA220B	22	25V	[M]
C601	ECBT1H102KB5	1000P	50V	[M]
C602	ECBT1H471KB5	470P	50V	[M]
C603	ECBT1H102KB5	1000P	50V	[M]
C604	ECBT1E223ZF5	0.022	25V	[M]
C604	ECBT1H102KB5	1000P	50V	[M]
C605	ECEA1AKA101B	100	10V	[M]
C606	ECBT1E223ZF5	0.022	25V	[M]
C606	ECFR1C183KR	0.018	16V	[M]
C607	ECEA1HKA3R3B	3.3	50V	[M]
C608	ECBT1H221KB5	220P	50V	[M]
C609	ECEA1HKA010B	1	50V	[M]
C611	ECBT1H104ZF5	0.1	50V	[M]
C612	ECEA1VKA220B	22	35V	[M]
C613	ECBT1H681KB5	680P	50V	[M]
C614	ECBT1H681KB5	680P	50V	[M]
C615	ECBT1H101KB5	100P	50V	[M]
C616	ECBT1H101KB5	100P	50V	[M]
C621	ECBT1E103ZF5	0.01	25V	[M]
C622	ECBT1E103ZF5	0.01	25V	[M]
C623	ECBT1H102KB5	1000P	50V	[M]
C624	ECEA0JKA101B	100	6.3V	[M]
C625	RCEA0J102B-S	1000P	6.3V	[M]
C626	ECBT1H102KB5	1000P	50V	[M]
C627	ECBT1E103ZF5	0.01	25V	[M]
C628	ECEA1AKA220B	22	10V	[M]
C629	ECBT1H331KB5	330P	50V	[M]
C630	ECBT1H561KB5	560P	50V	[M]
C631	ECBT1H561KB5	560P	50V	[M]
C632	ECBT1H101KB5	100P	50V	[M]
C633	ECBT1H101KB5	100P	50V	[M]
C634	ECEA1VKA220B	22	35V	[M]
C635	ECBT1H561KB5	560P	50V	[M]
C636	ECBT1H561KB5	560P	50V	[M]
C637	ECBT1H561KB5	560P	50V	[M]
C638	ECBT1H561KB5	560P	50V	[M]
C639	ECBT1H101KB5	100P	50V	[M]
C640	ECBT1H561KB5	560P	50V	[M]
C641	ECBT1H561KB5	560P	50V	[M]
C642	ECEA1CKA100B	10	16V	[M]
C643	ECBT1E103ZF5	0.01	25V	[M]
C644	ECEA1HKA0R1B	0.1	50V	[M]
C645	ECEA1HKA0R1B	0.1	50V	[M]
C647	ECBT1E103ZF5	0.01	25V	[M]
C648	ECEA1HKA0R1B	0.1	50V	[M]
C649	ECEA1HKA0R1B	0.1	50V	[M]
C650	ECBT1E103ZF5	0.01	25V	[M]
C651	ECBT1H150JC5	15P	50V	[M]
C652	ECBT1H101KB5	100P	50V	[M]
C653	ECEA1AM331B	330	10V	[M]
C654	ECBT1H180JC5	18P	50V	[M]
C655	ECBT1H101KB5	100P	50V	[M]
C656	ECBT1H680J5	68P	50V	[M]
C657	ECBT1H680J5	68P	50V	[M]
C658	ECEA1HKA010B	1	50V	[M]
C659	ECBT1H560J5	56P	50V	[M]
C660	ECEA1HKA3R3B	3.3	50V	[M]
C661	ECBT1H560J5	56P	50V	[M]
C662	ECEA1HKA2R2B	2.2	50V	[M]
C663	ECBT1H102KB5	1000P	50V	[M]
C664	ECBT1H102KB5	1000P	50V	[M]
C665	ECBT1H561KB5	560P	50V	[M]
C666	ECBT1H102KB5	1000P	50V	[M]
C667	ECBT1H102KB5	1000P	50V	[M]
C668	ECBT1H471KB5	470P	50V	[M]
C701	ECBT1H102KB5	1000P	50V	[M]
C701	ECEA0JKA330I	33	6.3V	[M]
C702	ECBT1H471KB5	470P	50V	[M]
C702	ECUZ1E104MBN	0.1	25V	[M]

Ref. No.	Part No.	Values & Remarks
C703	ECBT1H102KB5	1000P 50V [M]
C703	ECEA0JKA101I	100 6.3V [M]
C704	ECBT1H102KB5	1000P 50V [M]
C704	ECUZ1E104MBN	0.1 25V [M]
C705	ECEA1AKA101B	100 10V [M]
C706	ECFR1C183KR	0.018 16V [M]
C706	ECUZ1H272KBN	2700P 50V [M]
C707	ECEA1HKA3R3B	3.3 50V [M]
C707	ECUZ1E273KBN	0.027 25V [M]
C708	ECBT1H221KB5	220P 50V [M]
C709	ECEA1HKA010B	1 50V [M]
C710	ECUV1H151KCN	150P 50V [M]
C711	ECUZ1E104ZFN	0.1 25V [M]
C712	ECUZ1E104ZFN	0.1 25V [M]
C713	ECUZ1E104MBN	0.1 25V [M]
C714	ECEA0JKA101I	100 6.3V [M]
C715	ECUZ1H182KBN	1800P 50V [M]
C716	ECUZ1H821KBN	820P 50V [M]
C717	ECUZ1E104ZFN	0.1 25V [M]
C718	ECUZ1C224KBN	0.22 16V [M]
C721	ECUZ1H150JCN	15P 50V [M]
C722	ECUZ1H150JCN	15P 50V [M]
C723	ECEA1AKA221I	220 10V [M]
C724	ECUZ1E104MBN	0.1 25V [M]
C725	ECUZ1H102KBN	1000P 50V [M]
C726	ECUZ1H102KBN	1000P 50V [M]
C727	ECA1HAK010XI	1 50V [M]
C728	ECA1HAK010XI	1 50V [M]
C730	ECUZ1E104ZFN	0.1 25V [M]
C731	ECEA0JKA221I	220 6.3V [M]
C732	ECEA0JKA221I	220 6.3V [M]
C733	ECUZ1E104MBN	0.1 25V [M]
C734	ECEA1AKA221I	220 10V [M]
C735	ECUZ1E104ZFN	0.1 25V [M]
C736	ECUZ1E104ZFN	0.1 25V [M]
C737	ECUZ1E104ZFN	0.1 25V [M]
C738	ECUZ1E104MBN	0.1 25V [M]
C739	ECUZ1H103KBN	0.01 50V [M]
C742	ECUZ1E273KBN	0.027 25V [M]
C743	ECUZ1E104ZFN	0.1 25V [M]
C744	ECUZ1E183KBN	0.018 25V [M]
C745	ECUZ1C473KBN	0.047 16V [M]
C747	ECUV1H221KBN	220P 50V [M]
C749	ECUZ1H222KBN	2200P 50V [M]
C750	ECUZ1E104MBN	0.1 25V [M]
C751	ECUZ1E104MBN	0.1 25V [M]
C752	ECUZ1H102KBN	1000P 50V [M]
C753	ECUZ1H471KBM	470P 50V [M]
C754	ECUZ1H471KBN	470P 50V [M]

Ref. No.	Part No.	Values & Remarks
C761	ECUZ1H471KBN	470P 50V [M]
C762	ECUZ1H471KBN	470P 50V [M]
C1001	ECBT1C103MS5	0.01 16V [M]
C1002	ECEA1HKN2R2B	2.2 50V [M]
C1003	ECQP1272JZT	2700P 100V [M]
C1004	ECBT1C103MS5	0.01 16V [M]
C1005	ECQP1152JZT	1500P 100V [M]
C1007	ECQP2A472JZT	4700P 100V [M]
C1008	ECEA1HKA010B	1 50V [M]
C1009	RCE1HU101BT	100P 50V [M]
C1010	ECQV1H473JZ3	0.047 50V [M]
C1011	ECBT1H102KB5	1000P 50V [M]
C1012	ECBT1H102KB5	1000P 50V [M]
C1013	ECBT1C222KR5	2200P 16V [M]
C1014	ECBT1C222KR5	2200P 16V [M]
C1015	ECBT1C103MS5	0.01 16V [M]
C1016	ECEA0JKA470B	47 6.3V [M]
C1017	ECEA1HKA3R3B	3.3 50V [M]
C1018	ECFR1C683KR	0.068 16V [M]
C1019	ECEA1CKA220B	22 16V [M]
C1020	ECEA1CKA220B	22 16V [M]
C1021	ECEA1AKA220B	22 10V [M]
C1022	ECEA1AKA221Q	220 10V [M]
C1023	ECBT1C103MS5	0.01 16V [M]
C1024	ECEA1HKA3R3B	3.3 50V [M]
C1025	ECBT1H470J5	47P 50V [M]
C1026	ECBT1H101KB5	100P 50V [M]
C1027	ECBT1C472KR5	4700P 16V [M]
C1028	ECBT1H101KB5	100P 50V [M]
C1029	ECFR1E104ZF5	0.1 25V [M]
C1030	ECFR1C104KR	0.1 16V [M]
C1031	ECEA1AKA470B	47 10V [M]
C1032	ECEA1HKA220B	22 50V [M]
C1033	ECEA1HKA0R1B	0.1 50V [M]
C1034	ECEA1AKA330B	33 10V [M]
		CHIP JUMPER
RJ701	ERJ6GEY0R00A	0 1/10W [M]
RJ702	ERJ8GEY0R00A	0 1/8W [M]
RJ703	ERJ8GEY0R00A	0 1/8W [M]
RJ704	ERJ8GEY0R00A	0 1/8W [M]
RJ705	ERJ8GEY0R00A	0 1/8W [M]
RJ706	ERJ8GEY0R00A	0 1/8W [M]
RJ707	ERJ8GEY0R00A	0 1/8W [M]
RJ708	ERJ8GEY0R00A	0 1/8W [M]
RJ709	ERJ8GEY0R00A	0 1/8W [M]
RJ710	ERJ8GEY0R00A	0 1/8W [M]
RJ721	ERJ6GEY0R00A	0 1/10W [M]

Ref. No.	Part No.	Values & Remarks
RJ722	ERJ6GEY0R00A	0 1/10W [M]
RJ723	ERJ6GEY0R00A	0 1/10W [M]
RJ724	ERJ6GEY0R00A	0 1/10W [M]
RJ725	ERJ6GEY0R00A	0 1/10W [M]
RJ726	ERJ6GEY0R00A	0 1/10W [M]
RJ727	ERJ6GEY0R00A	0 1/10W [M]
RJ728	ERJ6GEY0R00A	0 1/10W [M]
RJ750	ERJ6GEY0R00A	0 1/10W [M]
		TEST JUMPER
TJ701	EYF8CU	TEST JUMPER [M]

Ref. No.	Part No.	Values & Remarks

Packing Materials & Accessories

Notes: * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low noise (resistors), etc are used.
When replacing any of these components, be sure to use only manufacturer's specified parts shown in the parts list.

- * The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area)
  Parts without these indications can be used for all areas.
- * The "(SF)" mark denotes the standard part.
- * [M] indicates in the Remarks columns indicates parts supplied by **MESA.**
- * [D] indicates in the Remarks columns indicates parts supplied by **MAVD.**
- * Remote Control Unit : Supply period for three years from terminal of production.
- * Reference for O/I book languages are as follows :

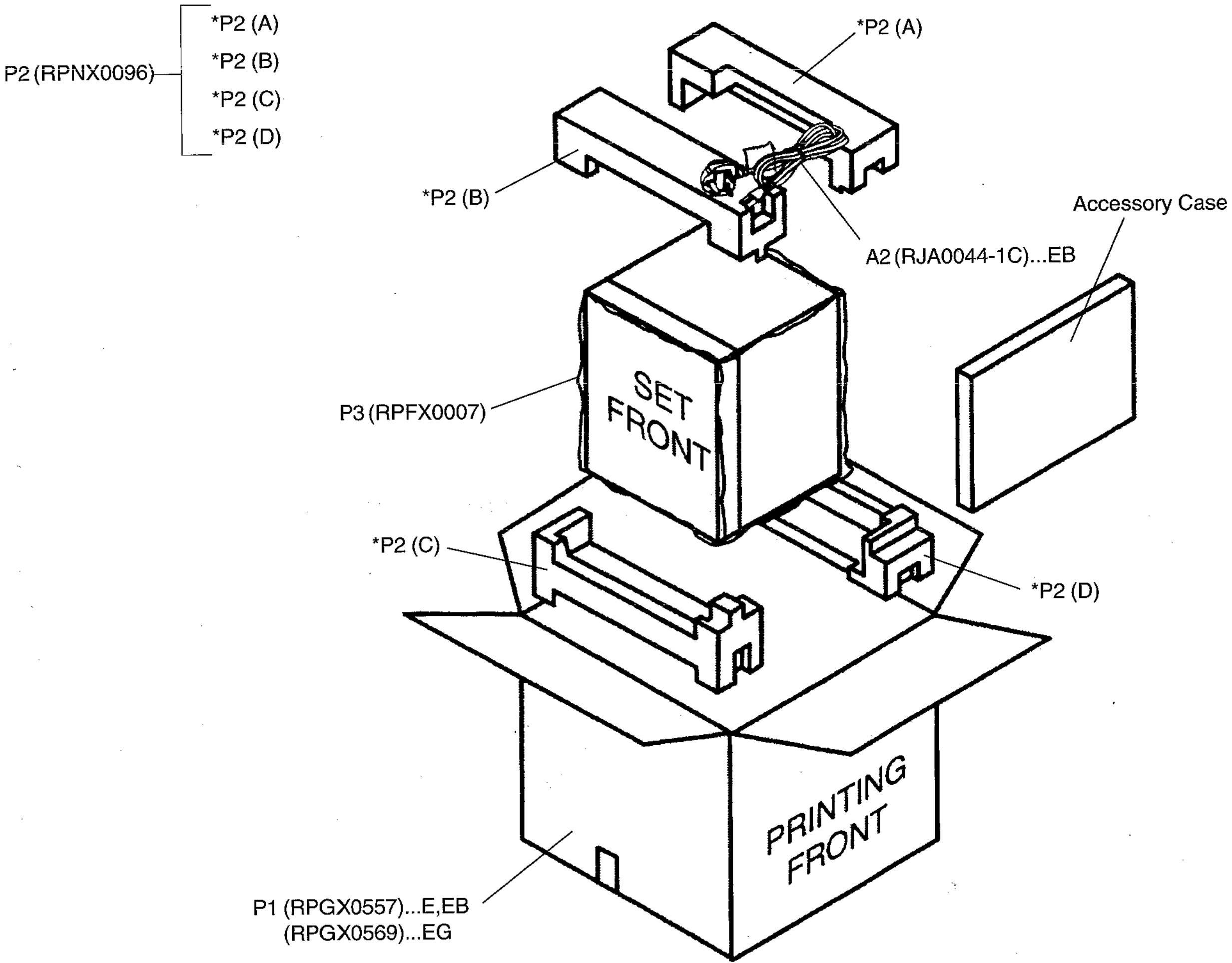
Ar : Arabic
Du : Dutch
Ko : Korean
Cf : Canadian French
En : English
Po : Polish
Ch : Chinese
Fr : French
Ru : Russian
Cz : Czech
Ge : German
Sp : Spanish
Da : Danish
It : Italian
Sw : Swedish

Ref No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPGX0557	PACKING CASE	[D]EB,E
P1	RPGX0569	PACKING CASE	[D]EG
P2	RPNX0096	POLYFOAM	[D]
P3	RPFX0007	MIRAMAT BAG	[M]

Ref No.	Part No.	Part Name & Description	Remarks
		ACCESSORIES	
A1	RAK-CH943WK	REMOTE CONTROL	[M]
A1-1	HTR0216-72PW	R/C BATTER COVER	[M]
A2	RJA0043-1C	AC CORD	[D]EG,E ⚠
A2	RJA0044-1C	AC CORD	[D]EB ⚠
A3	RQT4704-E	O/I BOOK (En/Sp/Sw)	[D]E

Ref No.	Part No.	Part Name & Description	Remarks
A3	RQT4705-R	O/I BOOK (Ru/Cz/Po)	[D]E
A3	RQT4706-D	O/I BOOK (Ge/It/Fr)	[D]EG
A3	RQT4707-H	O/I BOOK (Du/Da)	[D]EG
A3	RQT4708-B	O/I BOOK (En)	[D]EB
A3	RQT5112-R	O/I BOOK (Ru)	[D]E
A4	RSA0007	FM ANTENNA	[M]
A5	RSA0022	AM LOOP ANT	[M]

Packaging



MESA Printed in Germany
G990308100 H/K/J/O/L

10/21/02 # 13028

ORDER NO. MD9907105S2

Service Manual

Supplement

COMPACT
disc
DIGITAL AUDIO

MASH
multi-stage noise shaping

CD Stereo System

SA-AK17

Colour

(K) . . . Black Type

- **Please file and use this Supplement Manual together with the Service Manual for the following Model No. (Order No.) :**

SA-AK 17 E/EB/EG-K MD9903036C2

- This Supplement is provided to indicate the changes in Transformer P.C.B. in the Service Manual. Please use it to update your Service Manual for future reference.

Area

Suffix for Model No.	Area	Colour
(E)	Europe	(K)
(EB)	Great Britain	
(EG)	Germany and Italy	

System	Music Center	Speaker
SC-AK 17 (E)	SA-AK 17 (E)	SB-AK 17 (E)
SC-AK 17 (EB)	SA-AK 17 (EB)	SB-AK 17 (E)
SC-AK 17 (EG)	SA-AK 17 (EG)	SB-AK 17 (E)

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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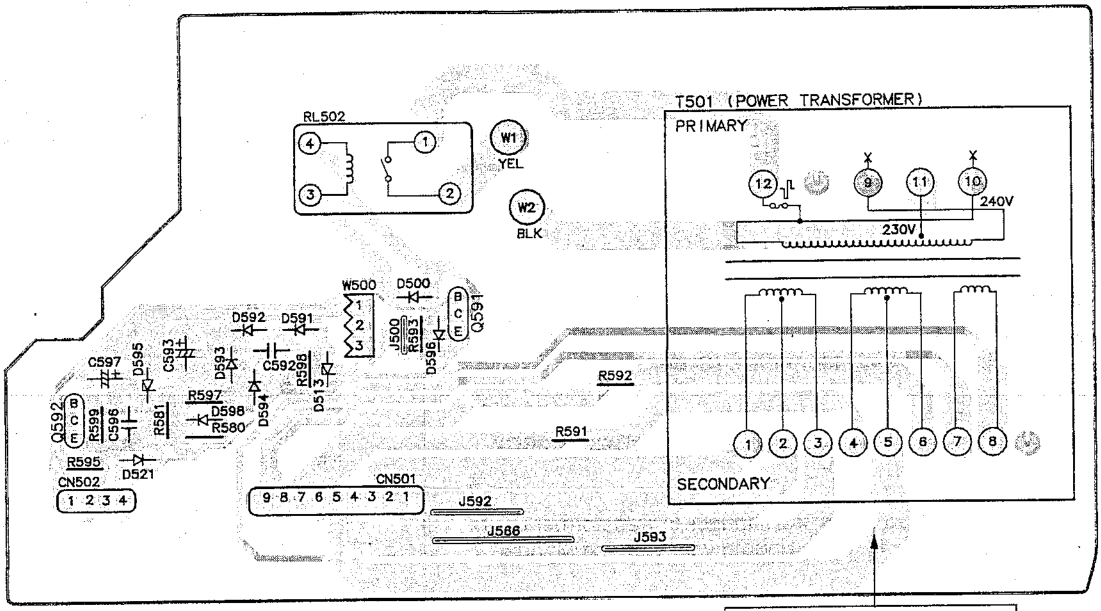
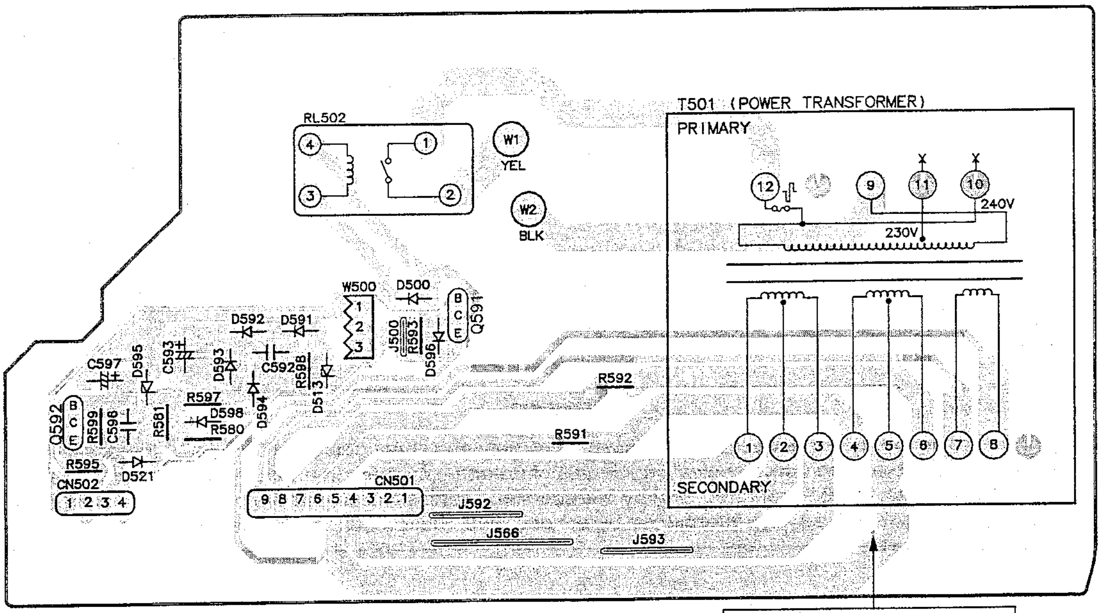
■ Changes in Printed Circuit Board

M TRANSFORMER P.C.B. (REPX0173S) ... E,EG ... Supplied by MAVD.


T501 (POWER TRANSFORMER)
PRIMARY
SECONDARY
12
9
11
10
240V
230V
1 2 3 4 5 6 7 8
RL502
W1
YEL
W2
BLK
W500
D500
Q591
B C E
D592
D591
J500
R593
D596
C597
D595
C593
D593
C592
R598
D513
R597
D598
R580
D594
Q592
R599
C596
R581
R592
R591
R595
D521
CN502
1 2 3 4
CN501
9 8 7 6 5 4 3 2 1
J592
J566
J593

CAUTION
RISK OF ELECTRIC SHOCK
AC VOLTAGE LINE. PLEASE DO NOT
TOUCH THIS PCB.

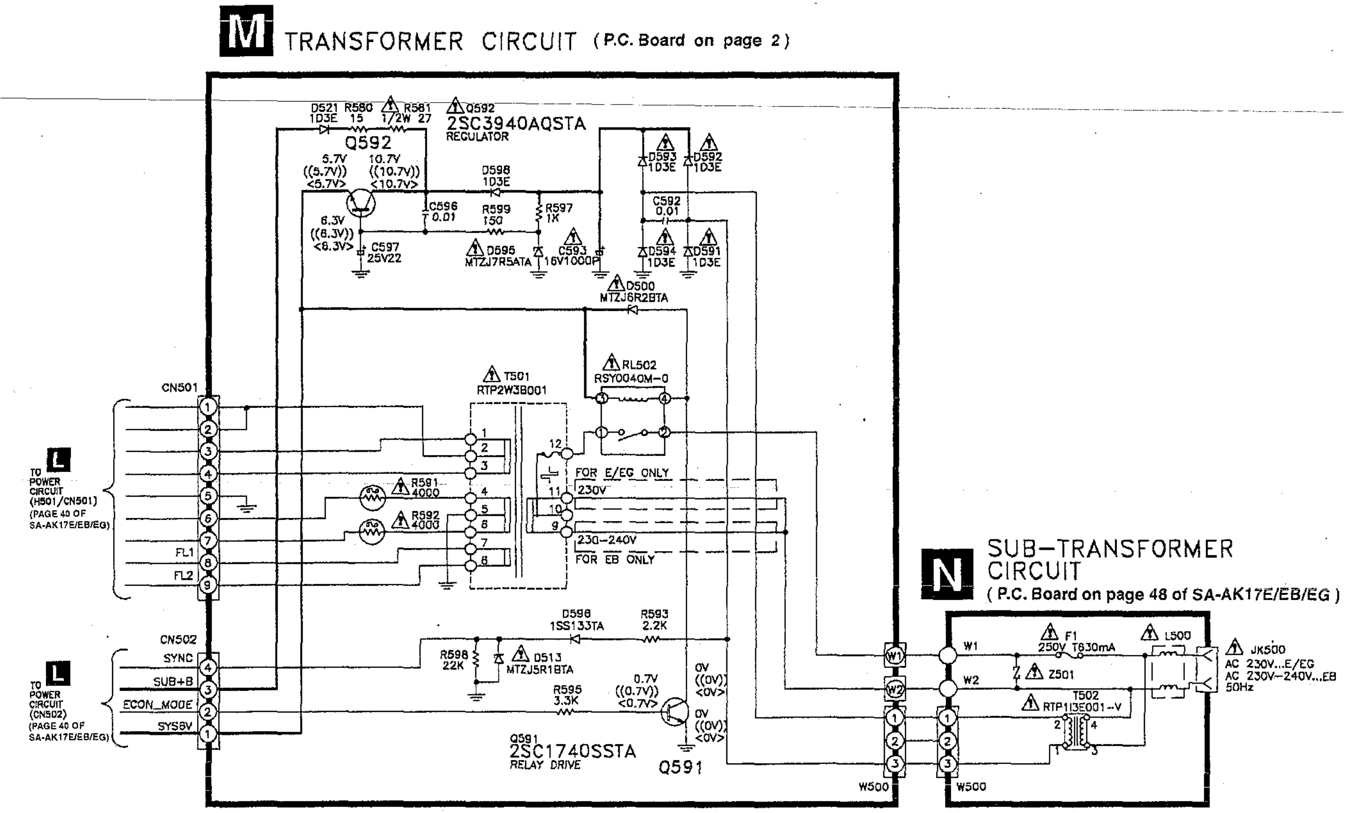
M TRANSFORMER P.C.B. (REPX0173T) ... EB ... Supplied by MAVD.


T501 (POWER TRANSFORMER)
PRIMARY
SECONDARY
12
9
11
10
240V
230V
1 2 3 4 5 6 7 8
RL502
W1
YEL
W2
BLK
W500
D500
Q591
B C E
D592
D591
J500
R593
D596
C597
D595
C593
D593
C592
R598
D513
R597
D598
R580
D594
Q592
R599
C596
R581
R592
R591
R595
D521
CN502
1 2 3 4
CN501
9 8 7 6 5 4 3 2 1
J592
J566
J593

CAUTION
RISK OF ELECTRIC SHOCK
AC VOLTAGE LINE. PLEASE DO NOT
TOUCH THIS PCB.

Changes in Schematic Diagram

——— : +B Line



M TRANSFORMER CIRCUIT (P.C. Board on page 2)

N SUB-TRANSFORMER CIRCUIT (P.C. Board on page 48 of SA-AK17E/EB/EG)

D521 1D3E
R580 15
R581 1/2W 27
Q592 2SC3940AQSTA REGULATOR
Q592
5.7V ((5.7V)) <5.7V>
10.7V ((10.7V)) <10.7V>
6.3V ((6.3V)) <6.3V>
C597 25V22
C596 0.01
D598 1D3E
R599 150
R597 1K
D595 MTZJ7R5ATA
C593 16V1000P
D593 1D3E
D592 1D3E
C592 0.01
D594 1D3E
D591 1D3E
D500 MTZJ6R2BTA
T501 RTP2W3B001
RL502 RSY0040M-0
CN501
TO L POWER CIRCUIT (H501/CN501) (PAGE 40 OF SA-AK17E/EB/EG)
FL1
FL2
R591 4000
R592 4000
FOR E/EG ONLY
230V
230-240V
FOR EB ONLY
D596 1SS133TA
R593 2.2K
CN502
SYNC
SUB+B
ECON_MODE
SYS6V
TO L POWER CIRCUIT (CN502) (PAGE 40 OF SA-AK17E/EB/EG)
R598 22K
D513 MTZJ5R1BTA
R595 3.3K
0.7V ((0.7V)) <0.7V>
0V ((0V)) <0V>
Q591 2SC1740SSTA RELAY DRIVE
Q591
W500
W1
W2
F1 250V T630mA
L500
Z501
T502 RTP1I3E001-V
JK500
AC 230V...E/EG
AC 230V-240V...EB
50Hz

Changes in Self-Diagnostic Display Function

(on page 19 of SA-AK 17 E/EB/EG).

■ CD Mechanism Test (H15, CD F15, F16, F17, CD F26, F27, CD F28, CD F29, F75)

1. Press the “CD” button.
2. Press the “OPEN/CLOSE” (CD-1) and set a CD.
3. Press the “OPEN/CLOSE” (CD-1) to close the tray.
4. Press the “OPEN/CLOSE” (CD-5) and wait until the tray is opened.
5. Press the “OPEN/CLOSE” (CD-1) and remove the CD.
6. Press the “OPEN/CLOSE” (CD-1) .
7. Press the (■) button. If abnormality is detected, the self diagnostic mark will be displayed. If there are several abnormalities, pressing the (■) will change (scroll) the marks. (Ex., CD F15 -> F75 ->) .
   If no abnormality is detected, only “ T ” will be displayed.

MAVD Printed in Germany
G990708100P

Order No.: MD0003036P0

Parts Change Notice

Model No. SA-AK17/75/95,RX-ES30 all series

Please revise the original parts list in the Service Manual to conform to the change(s) shown herein.
If new part numbers are shown, be sure to use then ordering parts.

Reason for Change

*The "▲" item indicates the reason. If no marking, see the Notes in the bottom column.

	1. Improve performance	9930# 1024132
	2. Change of material or dimension	10023# 1021102
	3. To meel approved specification	9521# 2017123
	4. Standardization	9570# 2014123
	5. Addition	10060# 1022172
	6. Deletion	10170
▲	7. Correction	
	8. Other	

Interchangeability Code

**The "▲" indicates the interchangeability. If no marking, see the Notes in the bottom column.

	Parts	Set Production	
	A Original New	Early Late	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
	B Original New	Early Late	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts where possible, then stock new parts.
▲	C Original New	Early Late	New parts only may be used in early or late production sets. Stock new parts.
	D Original New	Early Late	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
	E Other		

Part Number

Model No.	Ref. No.	Original Part No.	New Part No.	Notes	Part Name & Descriptions
SA-AK75/95 all series	A2-1	HTR0216-72PW [M]	HTR0216-71PW [M]	7,C	R/C BATTERY COVER
SA-AK17 all series	A1-1	HTR0216-72PW [M]	HTR0216-71PW [M]	7,C	R/C BATTERY COVER
RX-ES30 all series	A1-1	HTR0216-72PW [M]	HTR0216-71PW [M]	7,C	R/C BATTERY COVER

File this Parts Change Notice with your copy of the Service Manual.

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